CFD-V37

SERVICE MANUAL

E Model

Ver 1.0 1999 . 04

Model Name Using Similar Mechanism	CD Section	CFD-V34
	Tape Section	
Optical Pick-up Type		KSM-213CDM
Tape Transport Mechanism Type		MF-V10-117

SPECIFICATIONS

CD player section

System	Compact disc digital audio system
Laser diode properties	Material: GaAlAs Wavelength:780 nm Emission duration : Continuous Laser output : Less than 44.6 µW (This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)
Spindle speed	200 r/min (rpm) to 500 r/min (rpm) (CLV)
Number of channels	2
Frequency response	20 – 20,000 Hz + 1/-2 dB
Wow and flutter	Below measurable limit

Radio section

Frequency range	FM : 87.6 – 107 MHz(E4,EA) 87.6 – 108 MHz(E92) AM : 530 – 1,605 MHz(E4,EA) 530 – 1,710 MHz(E92)
IF	FM : 10.7MHz AM : 455kHz
Aerials	FM : Telescopic aerial AM : Built-in ferrite bar aerial

Cassette-corder section

Recording system	4 -track 2 channel stereo
Fast winding time	Approx. 120 s (sec.) with Sony cassette C-60
Frequency response	TYPE1 (normal) : 70 – 10,000 Hz

General

Speakers	Full range : 10 cm dia., 3.2 Ω, cone type (2)
Outputs	Headphones jack (stereo minijack) For 16 – 64 Ω impedance headphones
Power output	2.5 W + 2.5 W (at 3.2 Ω, 10 % harmonic distortion)
Power requirements	For CD radio cassette-corder : 110 – 120 V, 220 – 240 V AC Selectable, 50/60 Hz(E4,EA) 120V 60 Hz(E92) 9V DC, 6 size D (R 20) batteries For memory controller : 3V DC, 2 size AA (R 6) batteries

— Continued on next page —

CD RADIO CASSETTE-CORDER

MICROFILM

SONY®

Power consumption	AC 20W
Battery life	For CD radio cassette-corder:

FM recording
Sony R20P : approx. 13.5 h
Sony alkaline LR20 : approx. 19 h
Tape playback
Sony R20P : approx. 7.5 h
Sony alkaline LR20 : approx. 15 h
CD playback
Sony R20P : approx. 2.5 h
Sony alkaline LR20 : approx. 6 h

Dimensions	Approx. 425 × 160 × 246 mm (w/h/d) (16 3/4 × 6 3/8 × 9 3/4 inches) (incl. projecting parts)
Mass	Approx. 4.2 kg (9 lb. 4 oz) (incl. batteries)
Supplied accessories	AC power cord (1) Remote controller (1)

Design and specifications are subject to change without notice.

E4 : 220V – 240V AC area
EA : Saudi Arabia
E92 : 120V AV area

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICE NOTES

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.

CAUTION	;	INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL	;	USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO!	;	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING	;	LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL	;	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

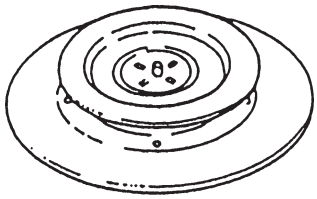
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc., on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

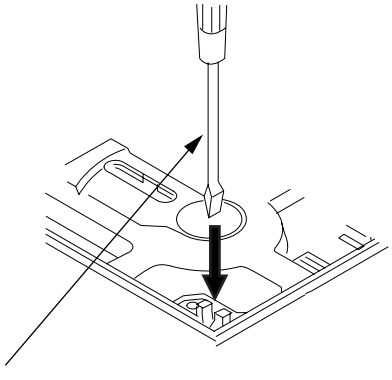
CHUCK PLATE JIG ON REPAIRING

On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.
• Code number of Chuck Plate Jig : X-4918-255-1



LASER DIODE AND FOCUS SEARCH OPERATION CHECK

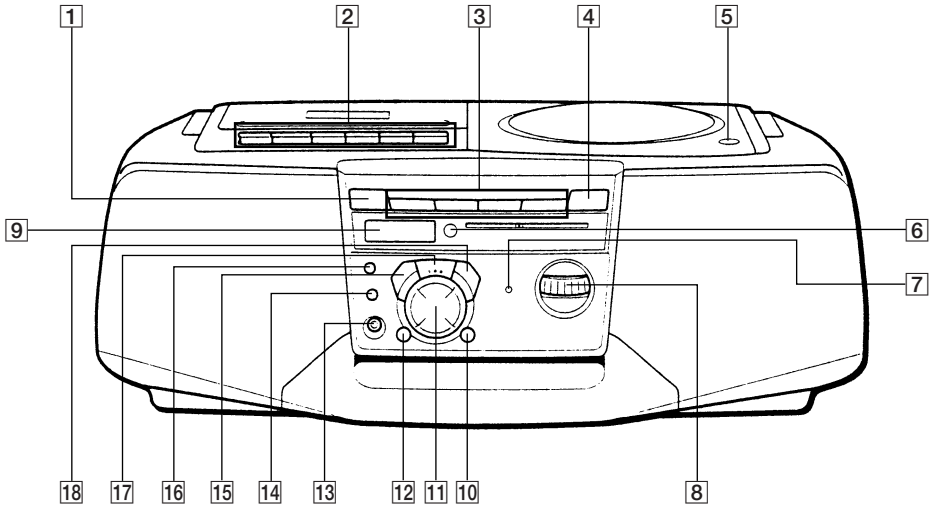
1. Press CD open knob.
2. Open the lid for CD.
3. Push on SWITCH(S501) as following figure.
4. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down once for the focus search.



Insert a precision screw driver and push SWITCH(S501)

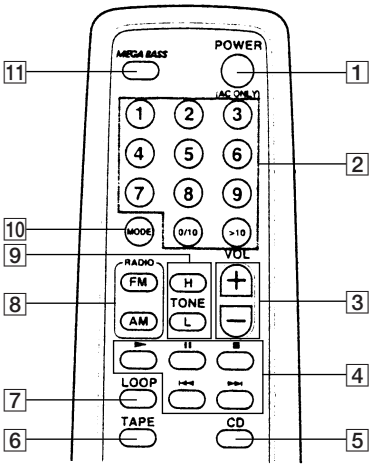
SECTION 2
GENERAL

LOCATION OF CONTROLS



1 POWER button
2 Tape operating buttons
3 FUNCTION buttons
4 LOOP button
5 OPEN/CLOSE button
6 Remote sensor
7 OPR/BATT indicator
8 TUNING knob
9 Information display
10 TONE (H) button
11 CD operating
12 TONE (L) button
13 ∩
14 DISPLAY/ENTER button
15 VOLUME – button
16 PLAY MODE button
17 MEGA BASS button
18 VOLUME + button

Remote commander



1 POWER (AC ONLY) button
2 Number buttons
3 VOL +/– buttons
4 CD operation buttons
5 CD button
6 TAPE button
7 LOOP button
8 BAND select buttons
9 TONE H/L buttons
10 MODE button
11 MEGA BASS button

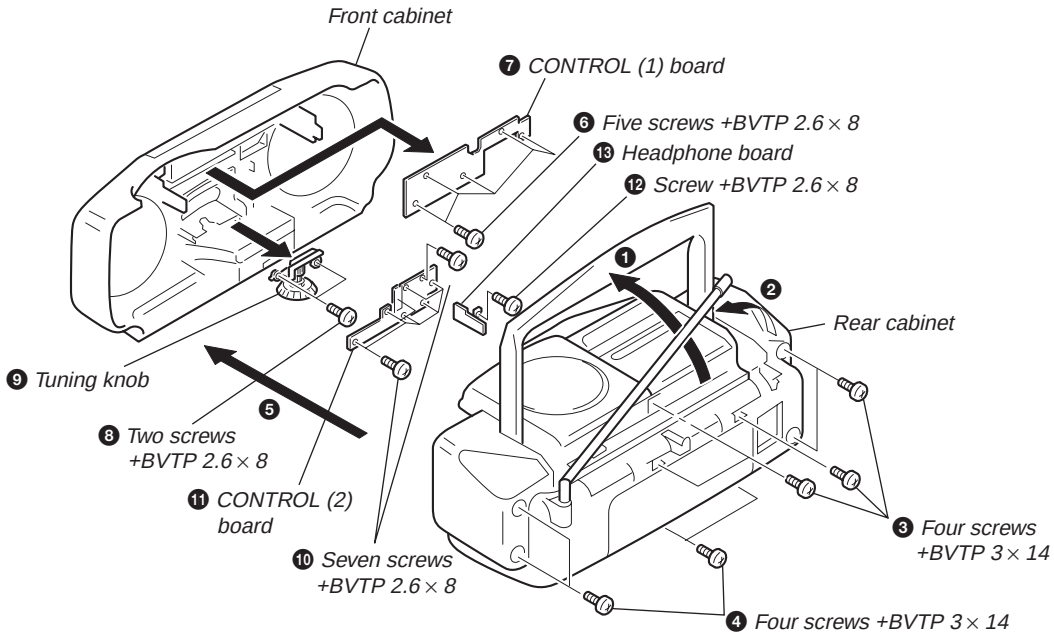
SECTION 3
DISASSEMBLY

• The equipment can be removed using the following procedure.

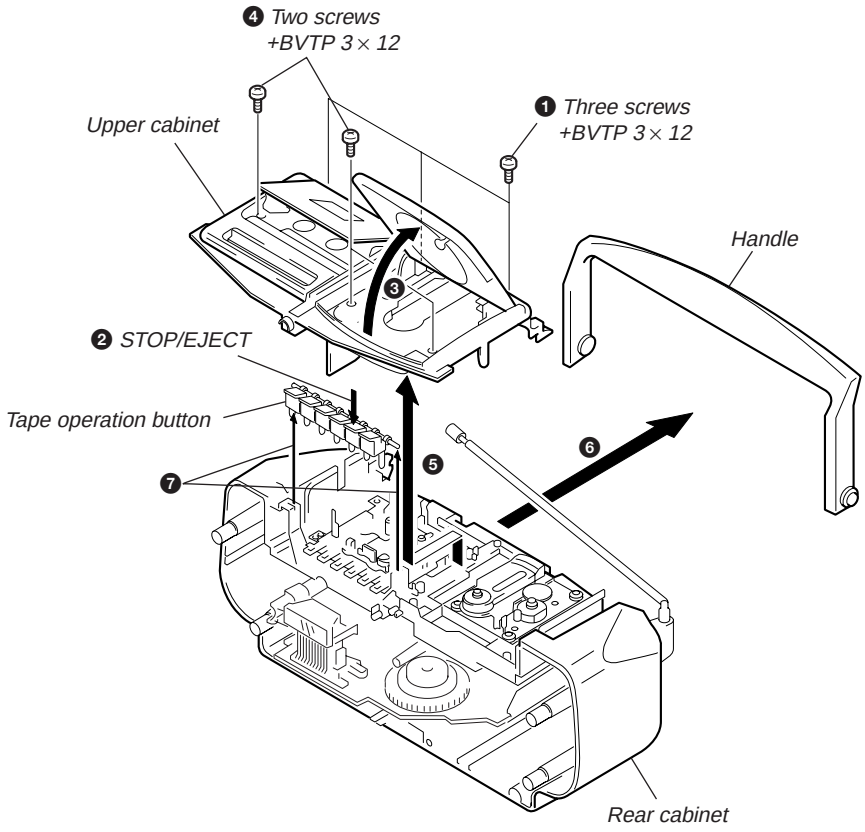
Set → Front cabinet → Control (1) board
Front cabinet → Control (2) board → Headphone board
Front cabinet → Upper cabinet → Optical pick-up → Main board → BATT board
Main board → Power board
Upper cabinet → Mechanism deck → REC SW board
Front cabinet → Primary board

Note : Follow the disassembly procedure in the numerical order given.

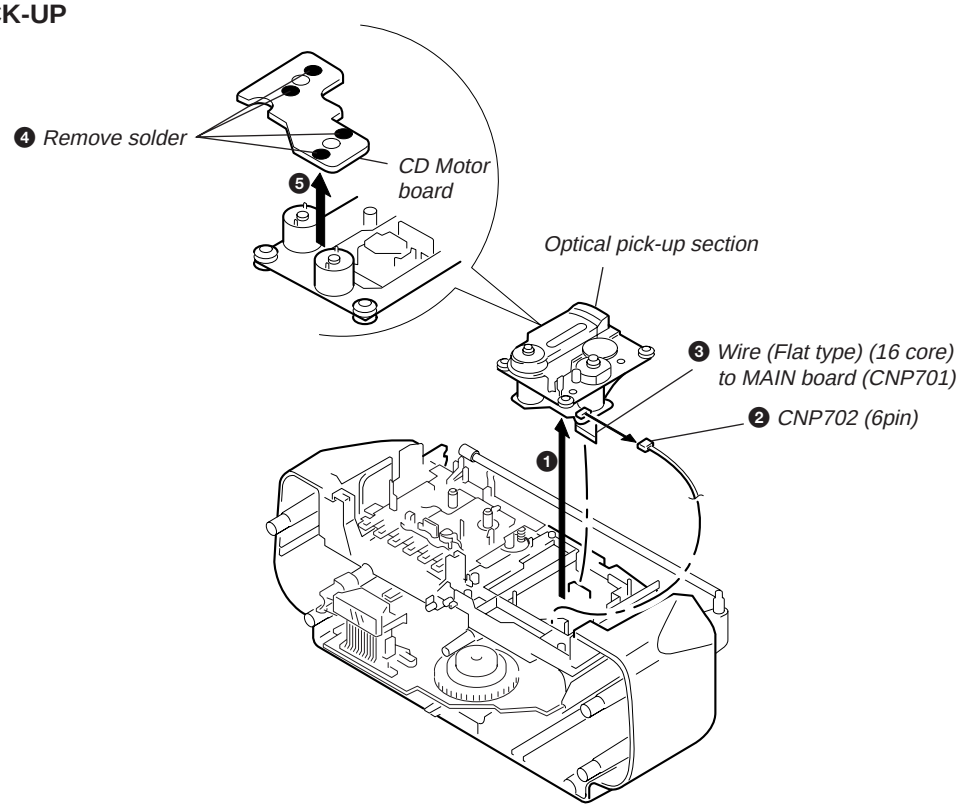
3-1. FRONT CABINET, CONTROL (1) BOARD, CONTROL (2) BOARD, HEADPHONE BOARD


Front cabinet
❼ CONTROL (1) board
❻ Five screws +BVTP 2.6 × 8
⓭ Headphone board
⓬ Screw +BVTP 2.6 × 8
❶
❷
Rear cabinet
❾ Tuning knob
❺
❽ Two screws +BVTP 2.6 × 8
⓫ CONTROL (2) board
❸ Four screws +BVTP 3 × 14
❿ Seven screws +BVTP 2.6 × 8
❹ Four screws +BVTP 3 × 14

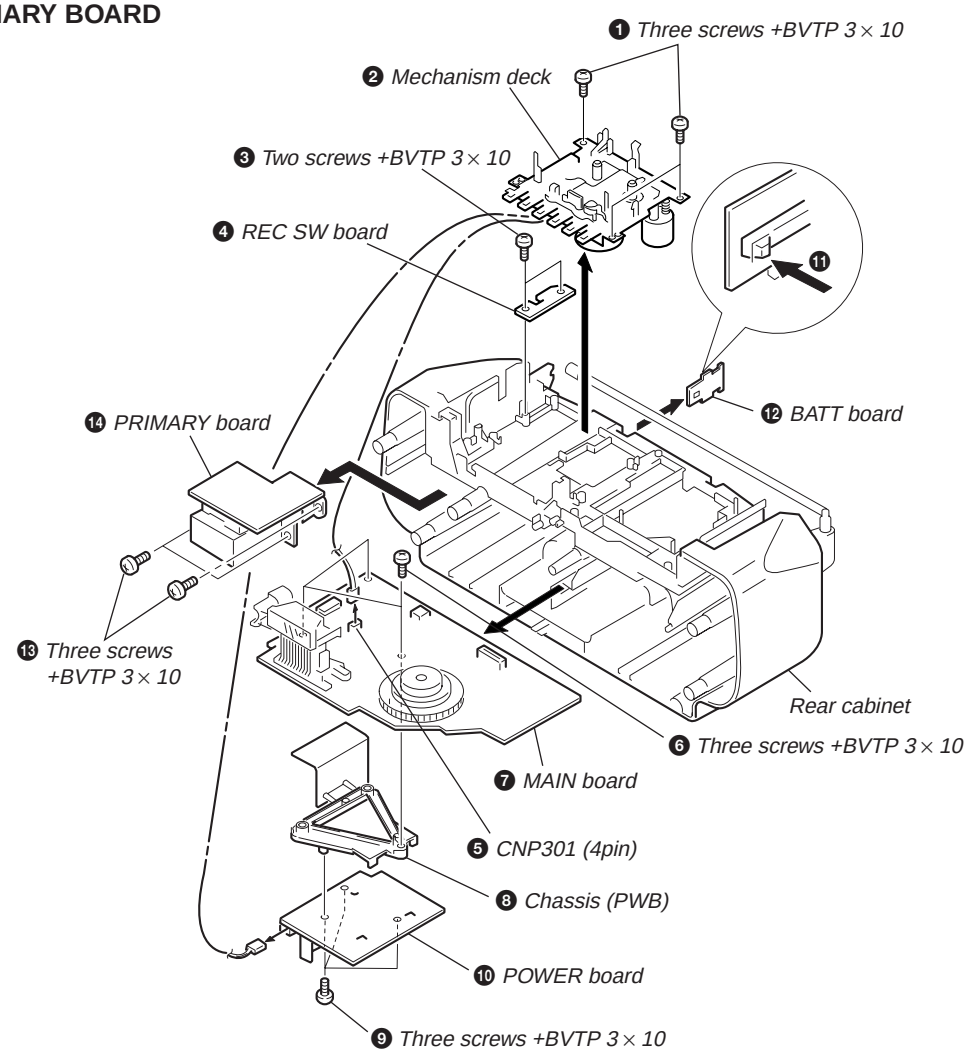
3-2. UPPER CABINET



3-3. OPTICAL PICK-UP



3-4. MECHANISM DECK, REC SW BOARD, MAIN BOARD, POWER BOARD, BATT BOARD, PRIMARY BOARD


❶ Three screws +BVTP 3 × 10
❷ Mechanism deck
❸ Two screws +BVTP 3 × 10
❹ REC SW board
⓫
⓬ BATT board
⓮ PRIMARY board
⓭ Three screws +BVTP 3 × 10
Rear cabinet
❻ Three screws +BVTP 3 × 10
❼ MAIN board
❺ CNP301 (4pin)
❽ Chassis (PWB)
❿ POWER board
❾ Three screws +BVTP 3 × 10

SECTION 4
ADJUSTMENTS

4-1. MECHANICAL ADJUSTMENT

PRECAUTION

1. Clean the following parts with a denatured-alchool-moistened swab:
   record/playback head, pinch roller
   erase head, rubber belts
   capstans
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	60g•cm (0.42 – 0. 83 oz•inch)
FWD back tension		1 – 5g•cm (0.014 – 0.07 oz•inch)
Fast Forward	CQ-201B	more than 55g•cm (more than 0.77 oz•inch)
Rewind		more than 55g•cm (more than 0.77 oz•inch)

Tape Tension Measurement

Torque Meter	Meter Reading
CQ-403A	more than 80g (more than 2.83 oz)

4-2. ELECTRICAL ADJUSTMENT

0dB = 0.775V

TAPE RECODER SECTION

Standard output level

Output Pin	HP OUT
Load impedance	32 Ω
Output signal level	0.25 V (–10dB)

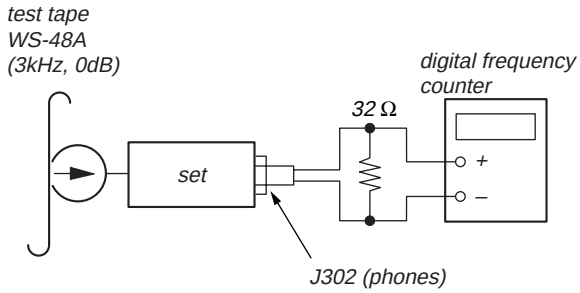
Test tape

Test Tape	Signal	Used for
WS-48A	3kHz, 0dB	Tape speed adjustment
P-4-A063	6.3 kHz, –10 dB	Head azimuth adjustment

Tape Speed Adjustment

Procedure :

Mode : Playback



Adjustment Value : normal tape speed

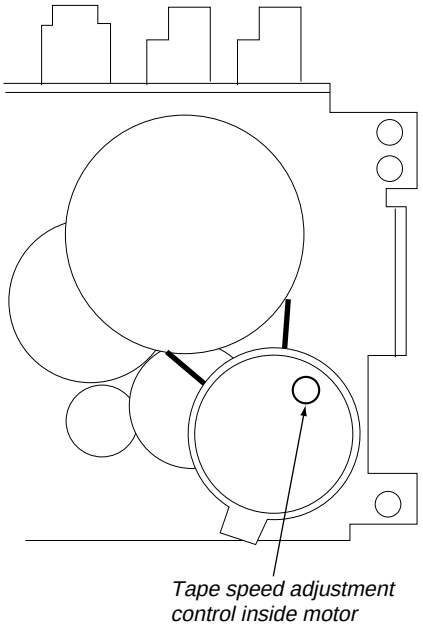
Adjust the tape speed adjustment control inside motor, so that the frequency counter reading becomes 3,000 Hz.

Specification Value :

Digital frequency counter
2,910 – 3,090Hz

Frequency difference between the beginning and the end of the tape should be within 3% (90 Hz).

Adjustment Location :



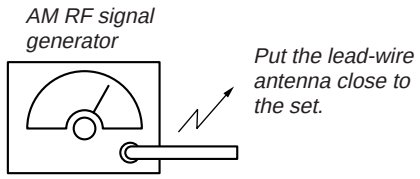
4-3. TUNER SECTION

0 dB = 1 µV

• Switch Location
VOLUME : MAX
MEGA BASS : OFF
TONE : OFF

AM SECTION

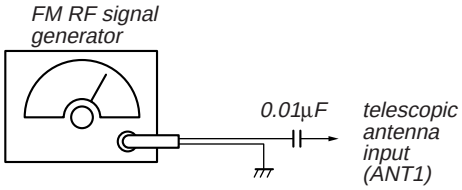
BAND : AM
Signal generator



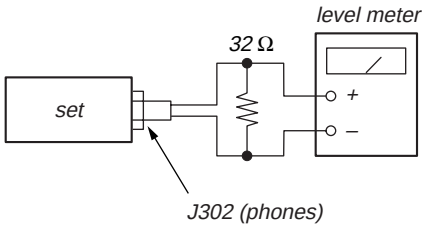
30% amplitude modulation by 400Hz signal.
Output level : as low as possible

FM SECTION

BAND : FM
Signal generator



75kHz (100%) amplitude modulation by 1kHz signal.
Output level : as low as possible



Adjustment Location : MAIN board (Component side)

(See page 9)

• Repeat the procedures in each adjustment several times for the maximum level meter indication.
• The frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T2	455kHz

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3	620kHz
CT1 (3/4)	1,400kHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4	516kHz(520kHz)
CT1 (4/4)	1,630kHz(1,780kHz)

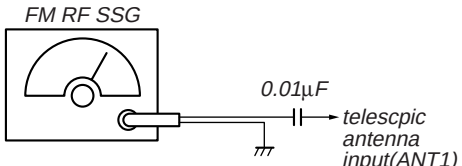
FM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T1	10.7MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	87.35MHz(86.5MHz)
CT1 (1/4)	107.8MHz(109.5MHz)

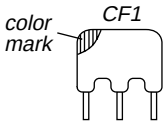
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L2	87.35MHz(86.5MHz)
CT1 (2/4)	107.8MHz(109.5MHz)

( ) : E92 model

FM VCO Adjustment
Procedure :



Carrier frequency : 98MHz
IF frequency : According to the color of CF1.
Modulation : no modulation
Output level : 0.1V (100dB)

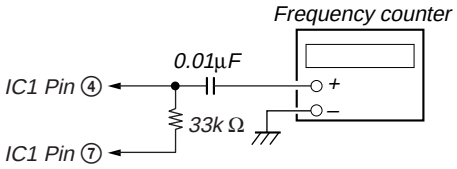


BLACK	10.64MHz
BLUE	10.67MHz
RED	10.70MHz
ORANGE	10.73MHz
WHITE	10.76MHz

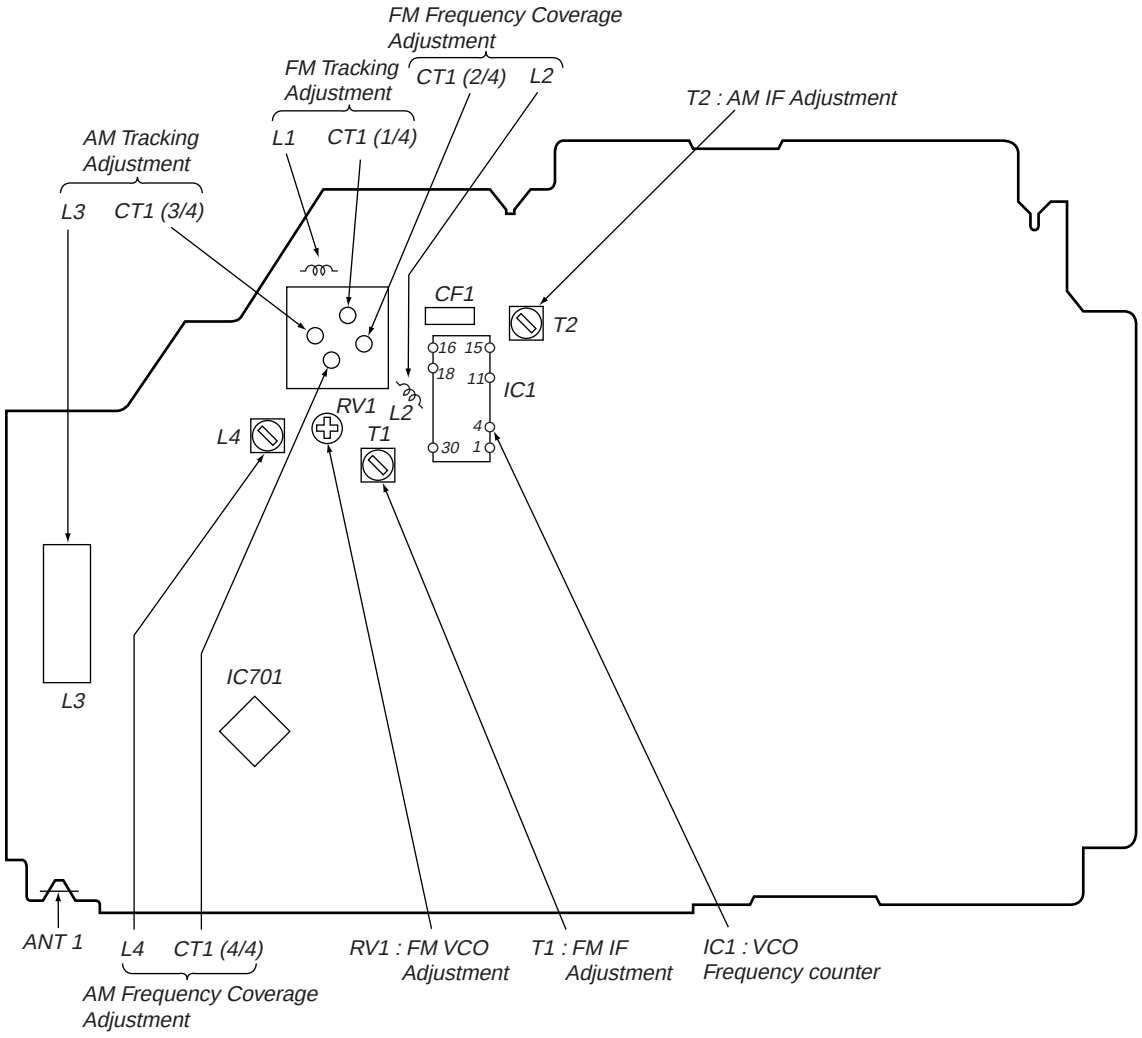
1. Connect frequency counter to the positions shown below.
2. Tune the set to 98MHz.
3. Adjust the RV1, so that the frequency counter reading becomes 76,000Hz.

Specification Value :

Digital frequency counter
75,950 – 76,050 Hz



Adjustment Location : MAIN board (Component side)



CD SECTION

Notes on Check

1. Perform the traverse check in the CD test mode.
   After check, be sure to exit the test mode.
2. Perform check in the order given.
3. Use the disc (YEDS-18, Parts No. 3-702-101-01) only when so indicated.

Before Check

Put the set into test mode and perform the following checks.
Repair if there are any problems.

• Sled Motor Check

Press ▶▶I , I◀◀ keys and confirm that the Optical pick-up moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises.
(Cancellation of BTL mute)
▶▶I : Optical pick-up moves to the outer circumference.
I◀◀ : Optical pick-up moves to the inner circumference.

- **Focus Search Check**

1. Press the CD ▶II key. (Focus search operation is performed continuously.)
2. Look at the Optical pick-up objective lens and confirm that it moves up and down smoothly, with no catching or abnormal noises.
3. Press ■ button.
   Confirm that focus search operation stops. If it does not, press ■ button again longer.

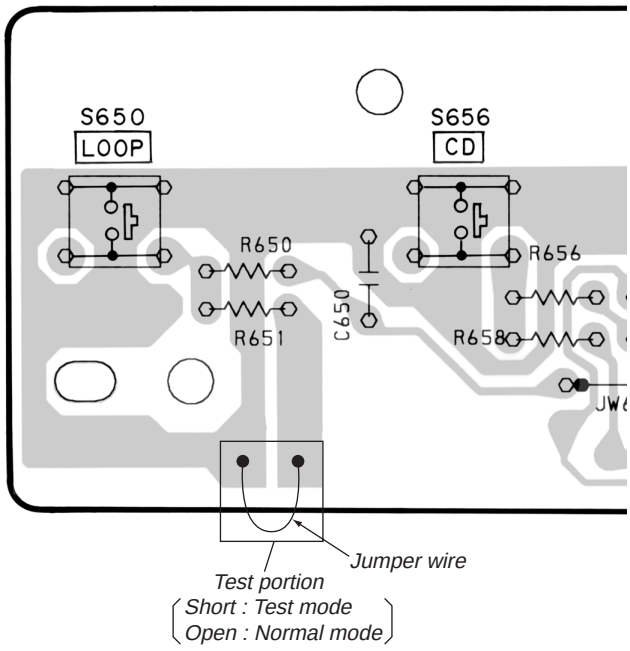
How to Enter the Set into Test Mode

1. Disconnect the AC power cord.
2. Short-circuit the lands as shown on the CONTROL (1) board.
3. Connect the AC power. (LCD 501 indicator blinks the test mode pattern.)

How to Exit the Test Mode

Turn off the POWER.

[CONTROL (1) BOARD] – CONDUCTOR SIDE –



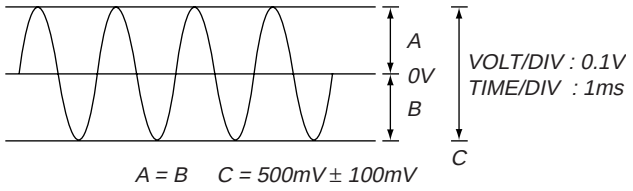
E-F Balance Check

Adjustment Location : MAIN board

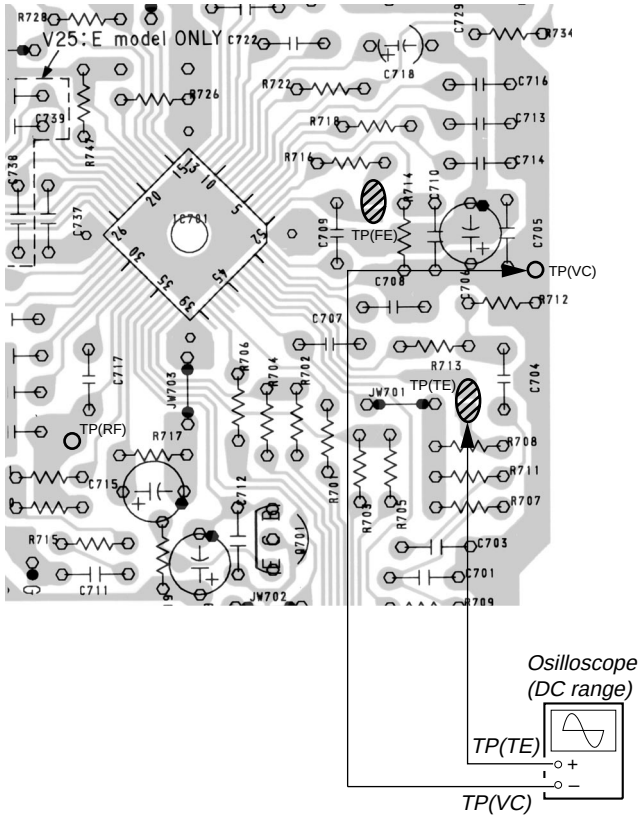
This check is to be done when the optical pick-up block is replaced.

Check Procedure:

1. Connect the oscilloscope to test point TP (VC) and TP (TE) on MAIN board.
2. Put the set into test mode.
3. Optical pick-up setting to the center by ▶▶I or I◀◀ button pushing.
4. Insert disk (YEDS-18) and press ▶II button.
5. Check that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.
6. Release test mode after adjustment is completed.



[MAIN BOARD] – CONDUCTOR SIDE –



Focus Bias Check

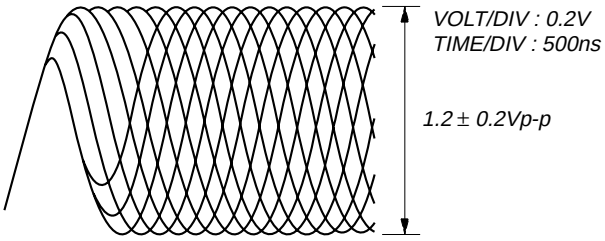
Adjustment Location : MAIN board (Component side)

This check is to be done when the optical block replaced.

Check Procedure:

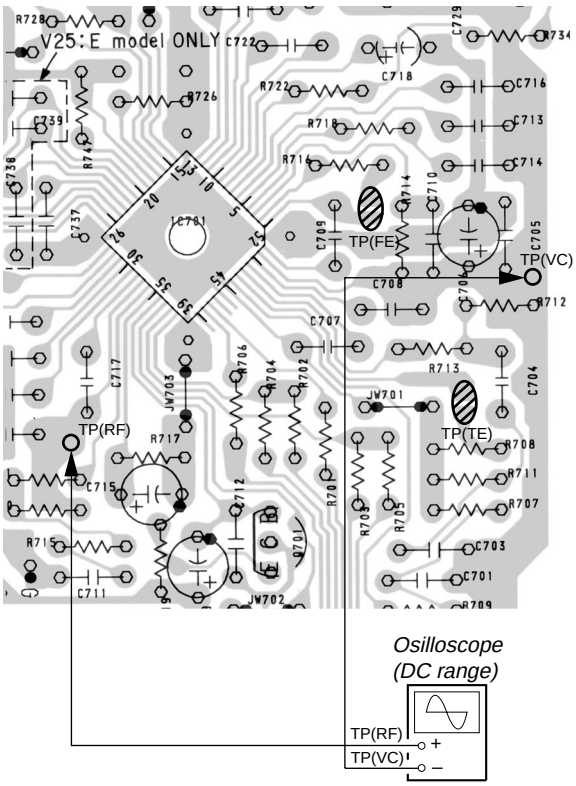
1. Connect the oscilloscope to test point TP (VC) and TP (RF) on MAIN board.
2. Put the set into test mode.
3. Opitical pick-up setting to the center by + or – button pushing.
4. Insert disk (YEDS-18) and press ▶II button.
5. Press the MODE button. (Tracking servo ON)
6. Check that the oscilloscope wavewform is as shown in the figure below (eye pattern).
   A good eye pattern means that the diamond shape (◊) in the center of the waveform can be clearly distinguished.
7. Release test mode after adjustment is completed.

• RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensivity.

[MAIN BOARD] – CONDUCTOR SIDE –



4-4. REFERENCE

Focus/Tracking Gain Check

Adjustment Location : MAIN board (Component side)

(See page 12)

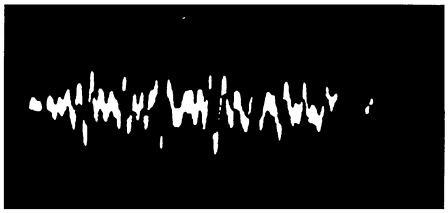
A frequency response analyzer is necessary in order to perform this check exactly.
However, this gain has a margin, so even if it is slightly off, there is no problem.
Focus/Tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for STOP ➡ CD ▶II or automatic selection (◀◀ , ▶▶ buttons pressed). (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP ➡ CD ▶II or automatic selection (◀◀ , ▶▶ buttons pressed.)	—	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	—	low
• More noise during 2-axis device operation.	high	high

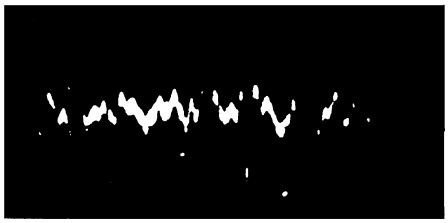
Check Procedure:

1. Keep the set horizontal.
2. Inset disk (YEDS-18) and press ▶II button.
3. Connect an oscilloscope to TP (FE) and TP (VC) on the MAIN board.
4. Check that the waveform is as shown in the figure below. (Focus waveform)

- Good Example



- Incorrent Examples (DC level changes more than on adjusted waveform)

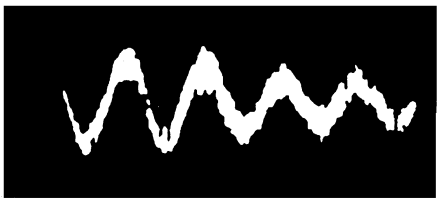


low focus gain

high focus gain

5. Connect an oscilloscope between TP (TE) and TP (VC).
6. Insert disc (YEDS-18) and press the CD ▶II button.
7. Check that the waveform is as shown in the figure below. (tracking waveform)

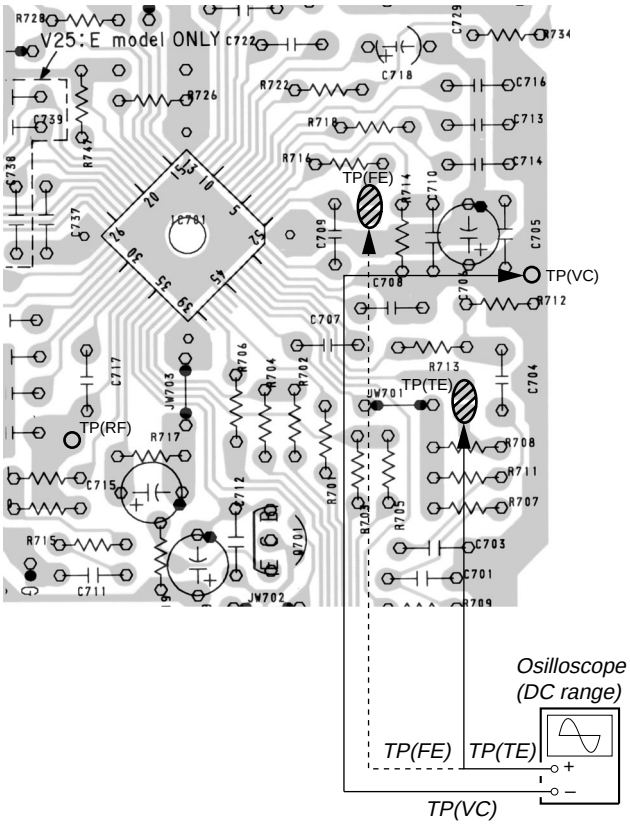
- Incorrect Examples (Fundamental wave appears)



low tracking gain

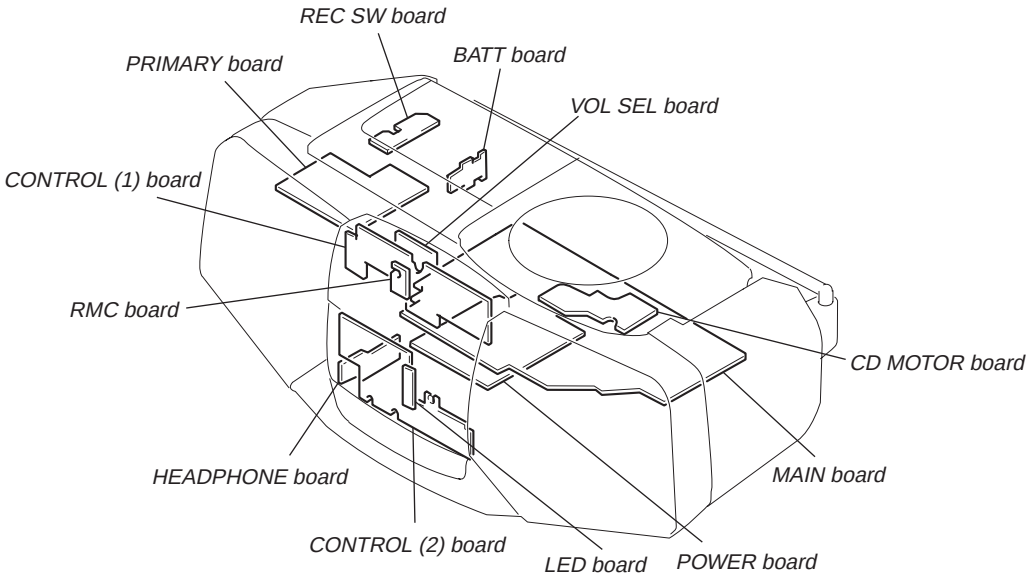
high tracking gain
(high fundamental wave than for low gain)

[MAIN BOARD]



SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



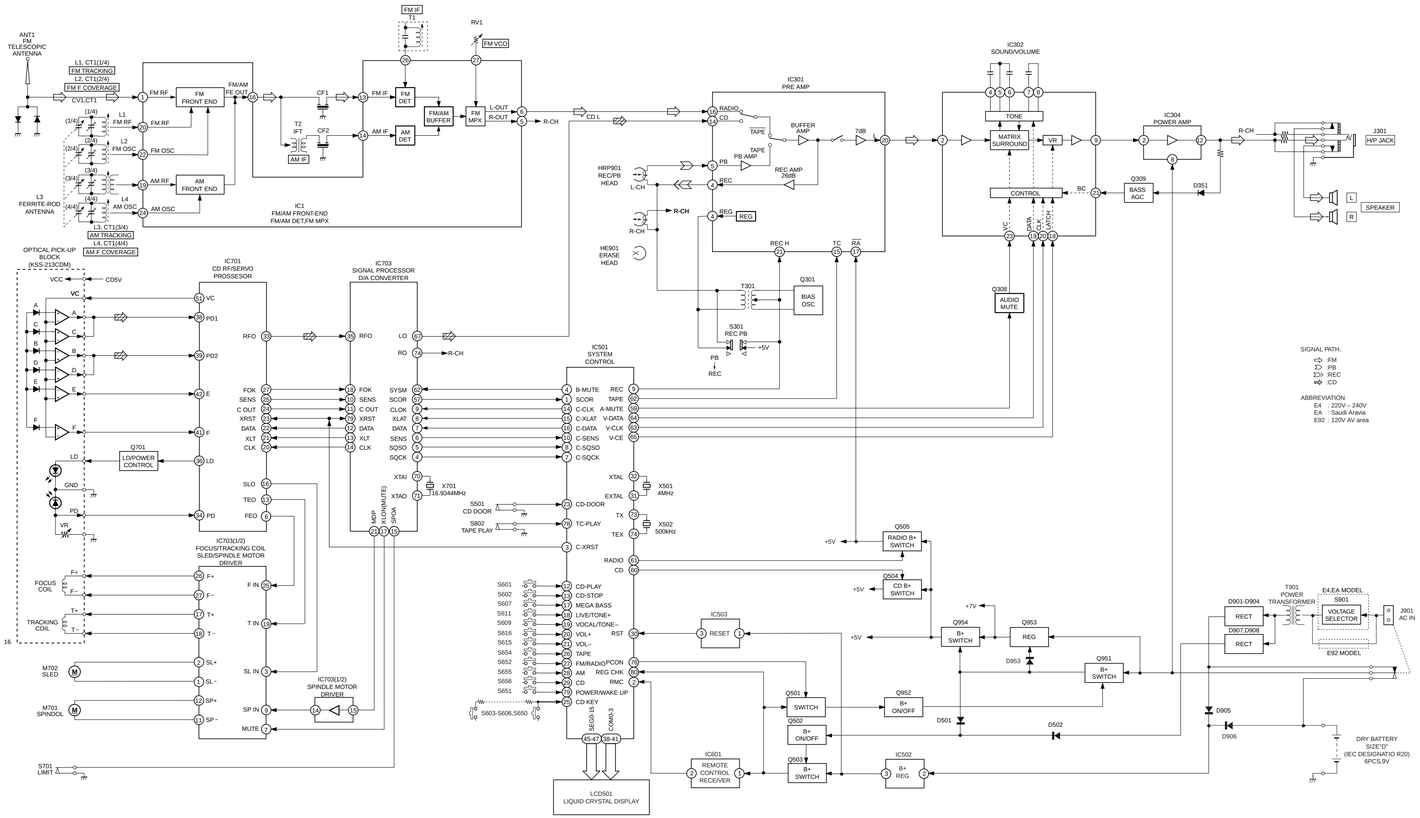
5-2. IC PIN FUNCTION

IC501 CXP83416A-602Q

Pin No.	Pin Name	I/O	Description
1	C-SCOR	I	SCOR input to CD
2	RMC	I	Remote control signal input
3	C-XRST	O	Reset output to CD system
4	B-MUTE	O	CD block mute ON/OFF
5	ROCK	I/O	Not used
6	POP	I/O	Not used
7	C-SQCK	I/O	Clock for reading CD SUBQ
8	C-SQSO	I/O	CD SUBQ data input
9	REC	I/O	Input from TAPE REC switch
10	C-SENS	I/O	CD SENS input
11	C-SENS2	I/O	CD SENS2 input
12	CD-PLAY	I/O	Input from CD-PLAY key
13	CD-STOP	I/O	Input from CD-STOP key
14	C-CLK	I/O	Clock for CD DSP command
15	C-XLT	I/O	Latch output from CD system
16	C-DATA	I/O	Command data output from CD DSP
17	MEGA BASS	I/O	Input from MEGA BASS switch
18	LIVE/TONE +	I/O	Input from LIVE/TONE + key
19	VCAL/TONE –	I/O	Input from VOCAL/TONE – key
20	VOL +	I/O	Input from VOL + key
21	VOL –	I/O	Input from VOL – key
22	MODE CHK	I/O	Mode check from RADIO/SOUND
23	C-DOOR	I/O	Open/close sense from CD door
24	BAND CHK	I/O	Input from RADIO BAND switch
25	CD KEY	I/O	Input from CD key (A/D)
26	TAPE	I/O	Input from TAPE FUNCTION key
27	FM/RADIO	I/O	Input from FM/RADIO key
28	AM	I/O	Input from AM FUNCTION key
29	CD	I/O	Input from CD FUNCTION key
30	RST	I	Reset input
31	4.19 MHz	I	4.19 MHz input
32	4.19 MHz	O	4.19 MHz output
33	Vss	—	Microprocessor reference GND
34	VL	O	ON/OFF terminal of LCD drive port
35	VLC3	I	LCD drive voltage terminal
36	VLC2	I	LCD drive voltage terminal
37	VLC1	I	LCD drive voltage terminal
38	COM0	O	LCD common output port
39	COM1	O	LCD common output port
40	COM2	O	LCD common output port

5-3. BLOCK DIAGRAM

Pin No.	Pin Name	I/O	Description
41	COM3	O	LCD common output port
42	SEG0	O	LCD segment signal output port
43	SEG1	O	
44	SEG2	O	
45	SEG3	O	
46	SEG4	O	
47	SEG5	O	
48	SEG6	O	
49	SEG7	O	
50	SEG8	O	
51	SEG9	O	
52	SEG10	O	
53	SEG11	O	
54	SEG12	O	
55	SEG13	O	
56	SEG14	O	
57	SEG15	O	
58	OUT	O	
59	A-MUTE	O	ON/OFF terminal of audio mute
60	CD	O	CD FUNCTION control terminal
61	RADIO	O	RADIO FUNCTION control terminal
62	TAPE	O	TAPE FUNCTION control terminal
63	V-CLK	O	Serial clock of VOL IC
64	V-DATA	O	Serial data output of VOL IC
65	V-CE	O	Chip enable of VOL IC
66	AM/FM	O	AM/FM output
67	ISS	O	ISS selection
68	VOCAL	O	Not used
69	LIVE	O	Not used
70	ROCK	O	Not used
71	POP	O	Not used
72	VDD	I	Power supply
73	TX	—	500 kHz
74	TEX	—	500 kHz
75	NC	—	No connection
76	PCON	O	Power ON/OFF control terminal
77	INIT	O	Initialization control terminal
78	TC-PLAY	I	Input from TC-PLAY
79	W-UP/POW	I	Input from WAKE UP/POWER KEY
80	REG-CHK	I	REG check



5-4. PRINTED WIRING BOARD

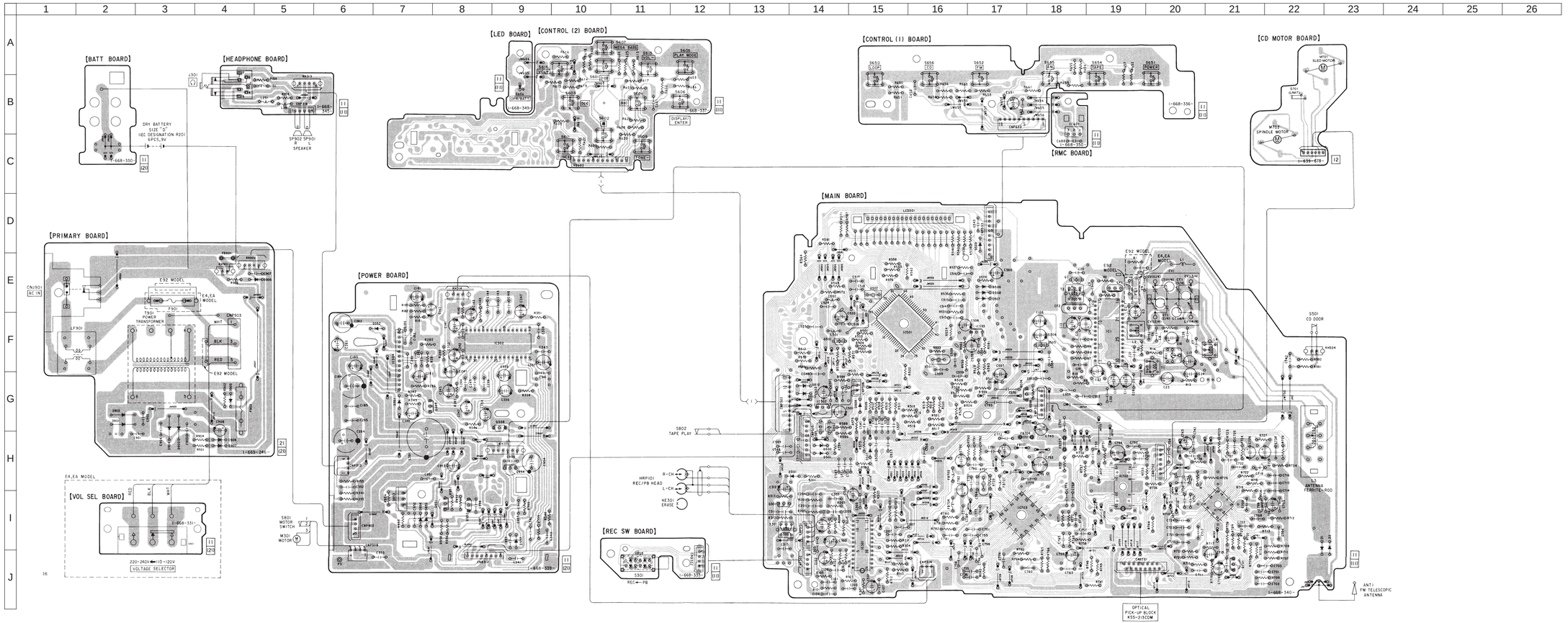
• Refer to page 13 for Circuit Boards Location.

• Semiconductor Location

Ref. No.	Location
D1	J-22
D2	J-23
D351	G-7
D501	H-14
D502	H-14
D503	H-15
D504	G-15
D506	E-17
D507	E-17
D508	E-17
D509	D-17
D511	G-17
D512	G-14
D513	G-14
D606	B-9
D901	G-2
D902	G-2
D903	H-3
D904	H-3
D905	G-4
D906	E-5
D907	H-4
D908	H-4
D953	I-7
D954	I-7
D955	I-9
D957	I-9
IC1	F-19
IC301	J-15
IC302	F-9
IC304	F-7
IC501	F-16
IC502	G-14
IC503	F-17
IC601	C-18
IC701	I-21
IC702	H-19
IC703	I-17
Q1	E-18
Q301	I-13
Q308	H-9
Q309	G-7
Q501	F-18
Q502	G-14
Q503	G-14
Q504	G-17
Q505	F-18
Q701	J-21
Q951	I-8
Q952	I-8
Q953	I-7
Q954	H-9

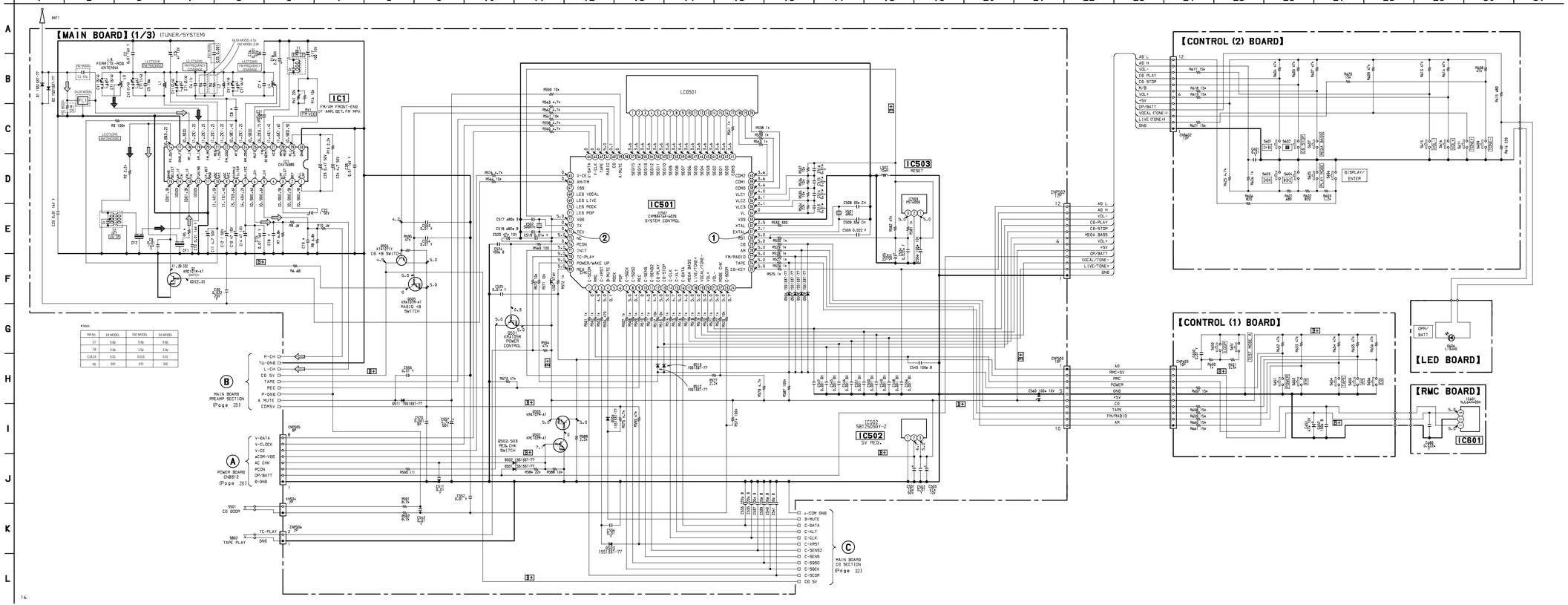
Note:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ▒▒▒ : Pattern from the side which enables seeing.
- Abbreviation
  - E4 : 220V – 240V AC area
  - EA : Saudi Arabia
  - E92 : 120V AV area

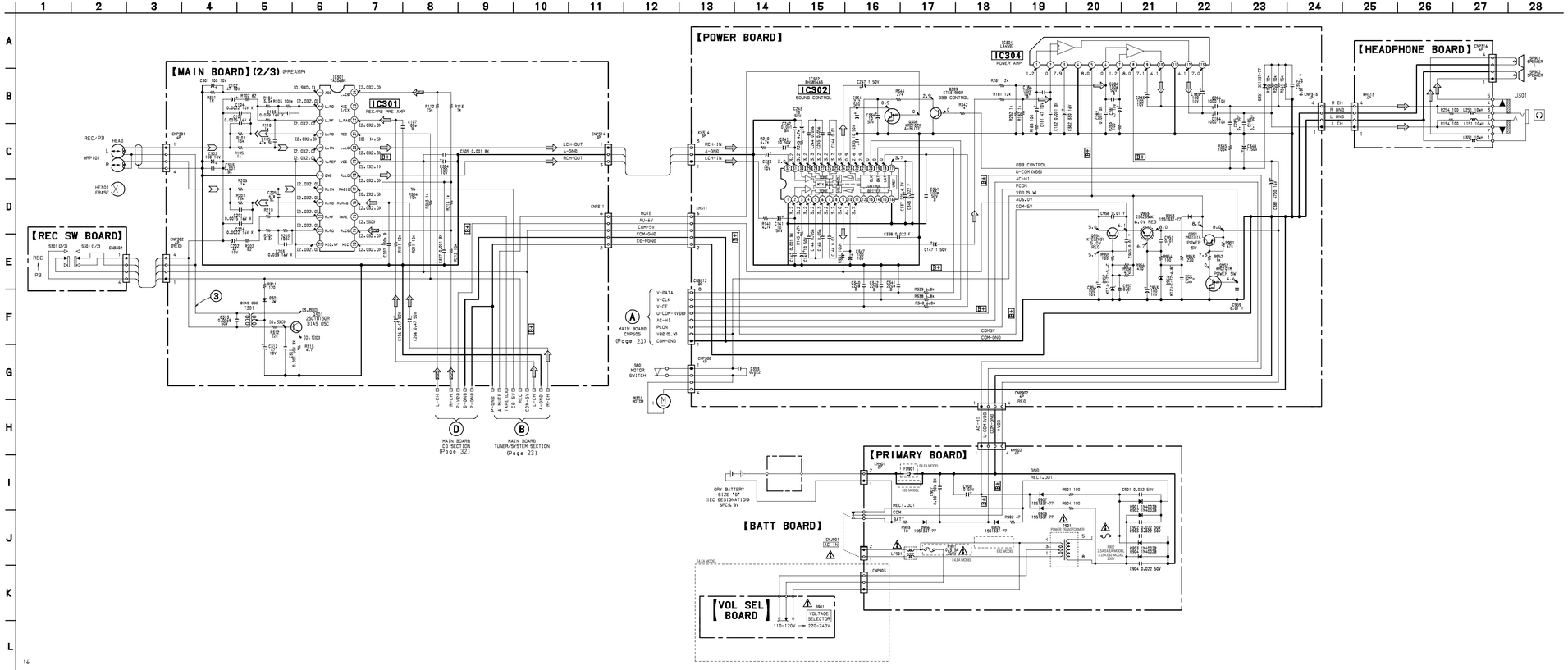


5-5. SCHEMATIC DIAGRAM — TUNER/SYSTEM SECTION —

• Refer to page 34 for IC Block Diagrams.

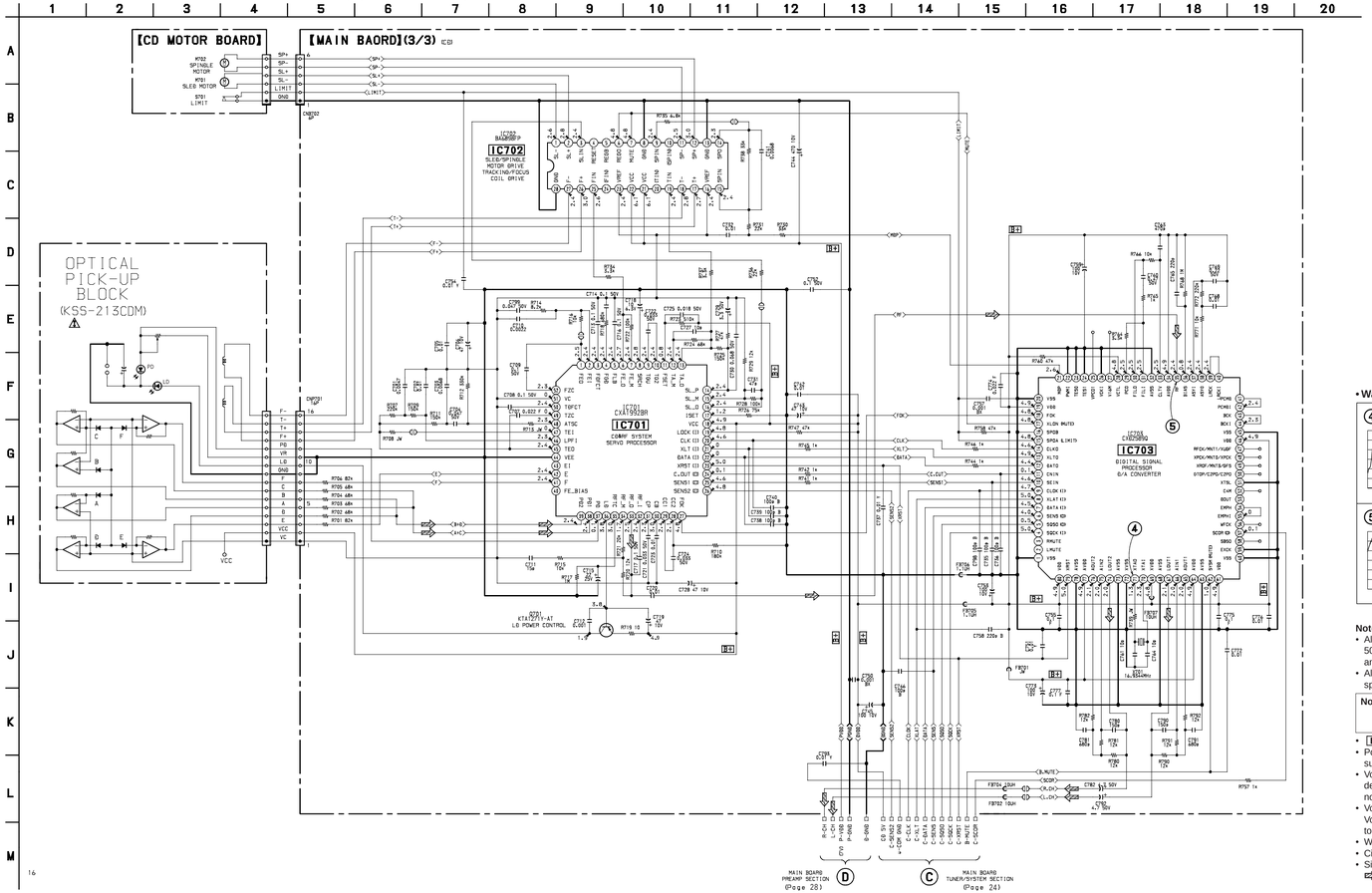


5-6. SCHEMATIC DIAGRAM — POWER SECTION —

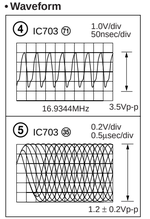

【MAIN BOARD】(2/3) (PREAMP)
【REC SW BOARD】
【POWER BOARD】
【HEADPHONE BOARD】
【PRIMARY BOARD】
【BATT BOARD】
【VOL SEL BOARD】
IC301
REC/PB PRE AMP
IC304
POWER AMP
IC302
SOUND CONTROL
IC303
SYSTEM CONTROL
REC/PB
HEAD
HRP101
ERASE
MAIN BOARD CD SECTION (Page 32)
MAIN BOARD TUNER/SYSTEM SECTION (Page 23)
MAIN BOARD CNP5201 (Page 23)
DRY BATTERY SIZE "C" (IEC DESIGNATION) 6PCS. 9V
VOLTAGE SELECTOR
110-120V
220-240V
EXCEPT EXCEPT EXCEPT

5-7. SCHEMATIC DIAGRAM — CD SECTION —

• Refer to page 34 for IC Block Diagrams.


【CD MOTOR BOARD】
【MAIN BAORD】(3/3)
OPTICAL PICK-UP BLOCK (KSS-213CDM)
IC702 BA6988FP SLED/SPINDLE MOTOR DRIVE TRACKING/FOCUS COIL DRIVE
IC701 CXA1992BR CD/MP SYSTEM SERVO PROCESSOR
IC703 CXD2652BR DIGITAL SIGNAL PROCESSOR D/A CONVERTER
MAIN BOARD PREAMP SECTION (Page 28)
MAIN BOARD TUNER/SYSTEM SECTION (Page 24)

• Waveform



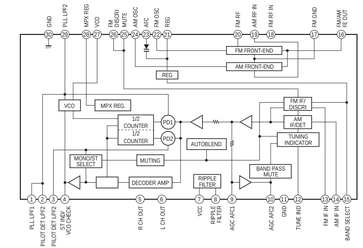
Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

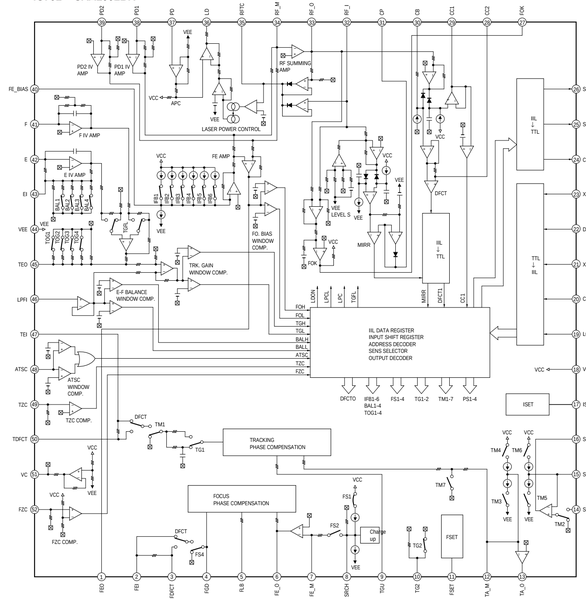
- B+ : B+ Line.
- Power voltage is dc 9 V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : CD PLAY
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

5-8. IC BLOCK DIAGRAMS

IC1 CXA12138S



IC701 CXA1992BR



SECTION 6
EXPLODED VIEWS

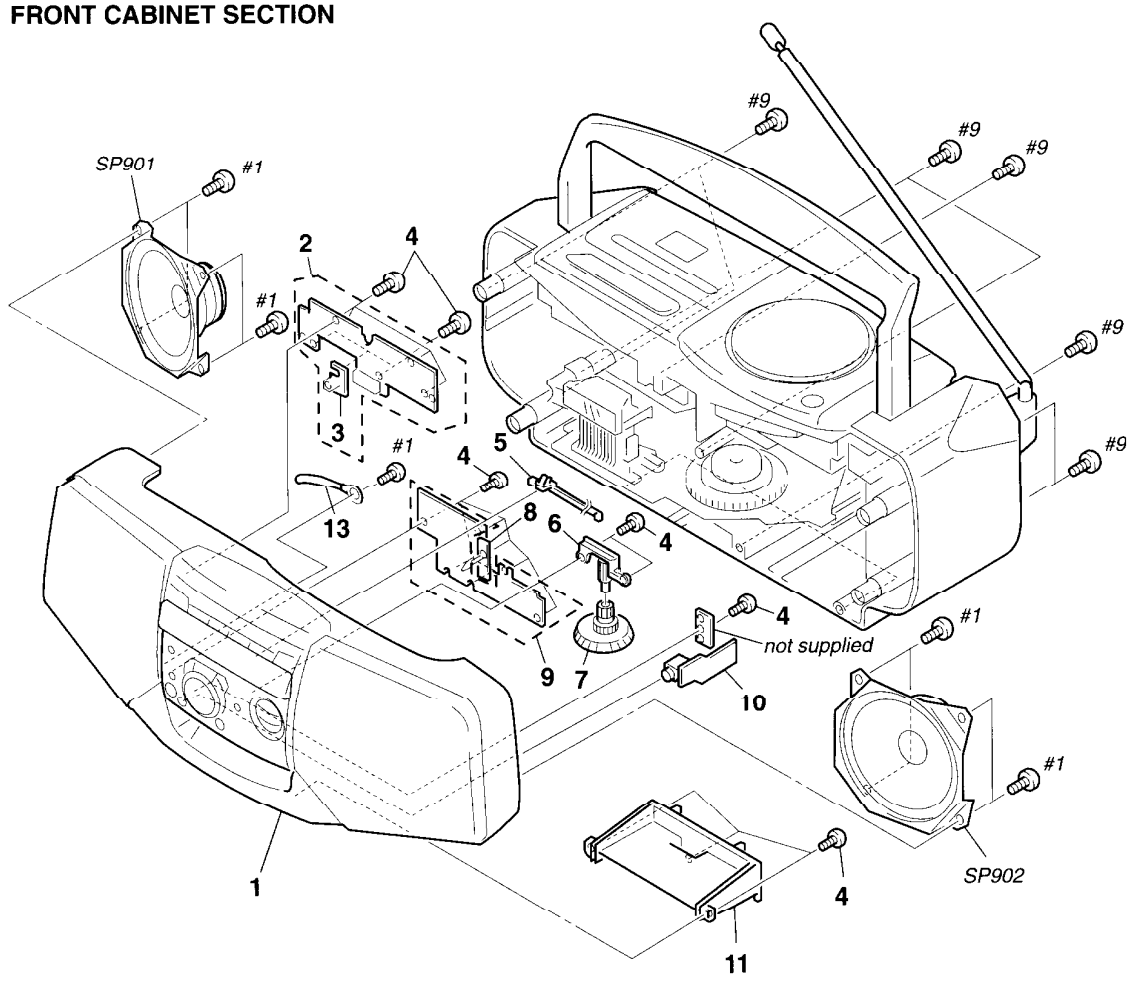
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  E4 : 220V – 240V AC area
  EA : Saudi Arabia
  E92 : 120V AV area

When indicating parts by reference number, please include the board name.

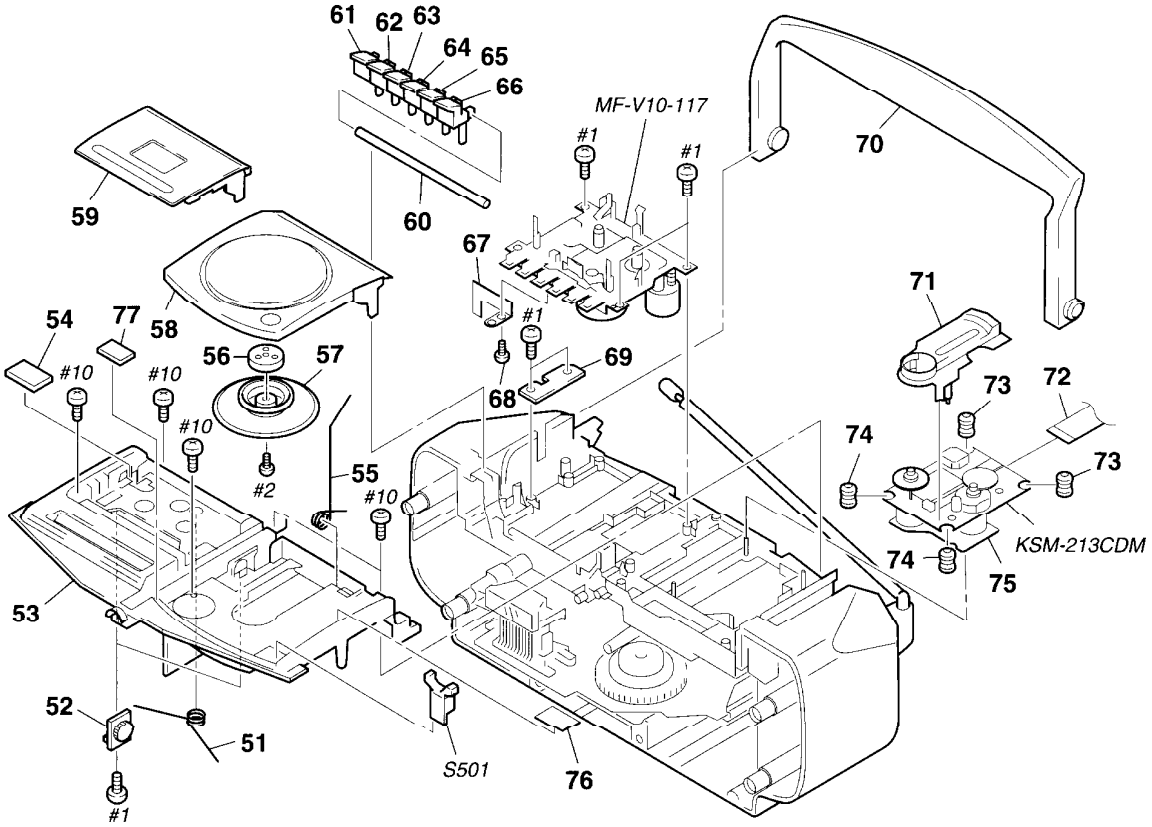
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

6-1. FRONT CABINET SECTION



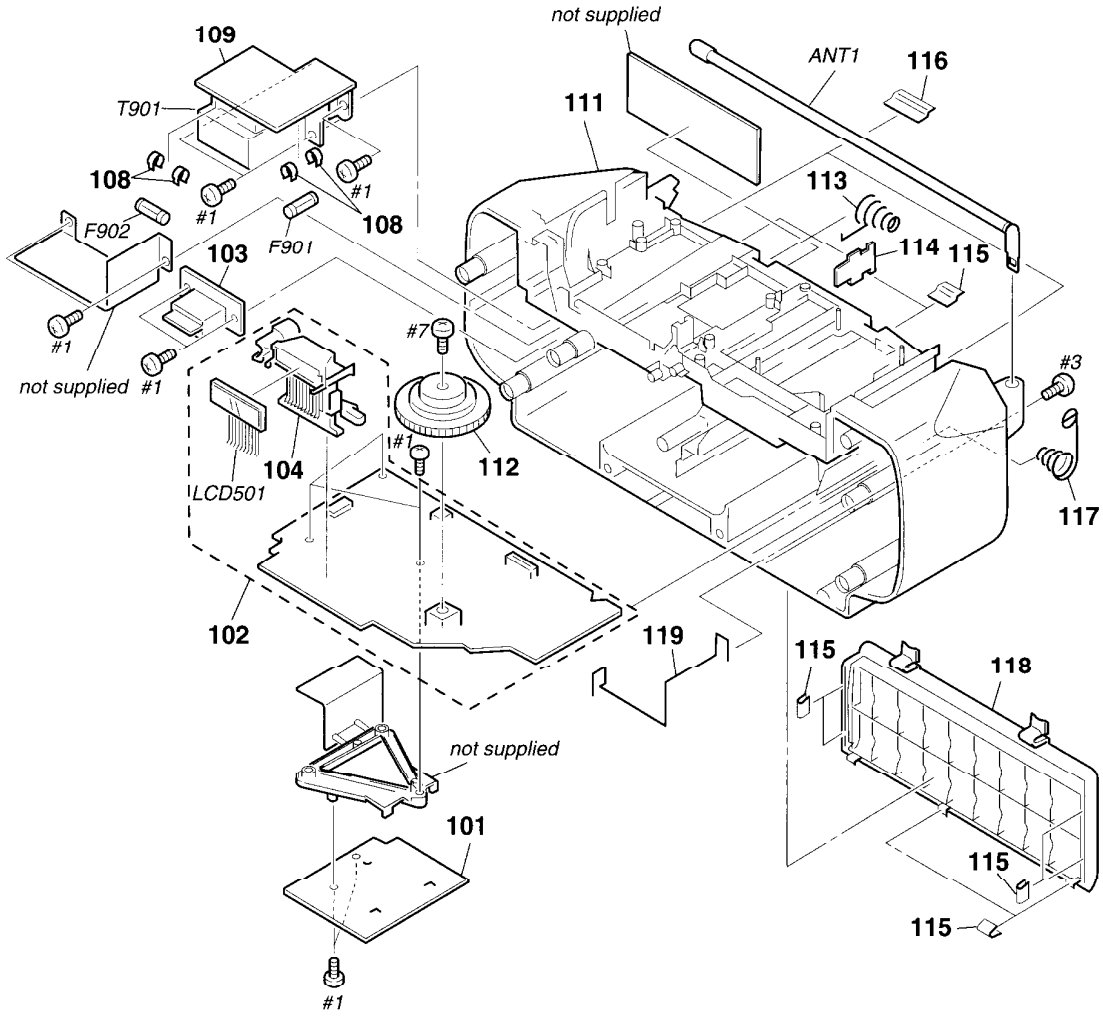
Ref. No.	Part No.	Description	Remarks
1	X-3377-261-1	CABINET (FRONT) ASSY (E92)	
1	X-3377-262-1	CABINET (FRONT) ASSY (E4)	
1	X-3377-263-1	CABINET (FRONT) ASSY (EA)	
* 2	A-3321-102-A	CONTROL (1) BOARD, COMPLETE	
* 3	1-668-350-11	RMC BOARD	
4	4-951-620-01	SCREW (2.6 × 8), +BVTP	
5	3-018-839-11	POINTER	
* 6	3-018-842-01	CHASSIS (TU)	
7	3-018-840-31	KNOB (TU)	
* 8	1-668-349-11	LED BOARD	
* 9	A-3321-100-A	CONTROL (2) BOARD, COMPLETE	
* 10	1-668-345-11	HEADPHONES BOARD	
* 11	3-022-854-01	CHASSIS (DUCT)	
* 13	3-703-150-11	CLAMP	
SP901	1-505-934-11	SPEAKER (10CM)(L)	
SP902	1-505-934-11	SPEAKER (10CM)(R)	

6-2. UPPER CABINET SECTION



Ref. No.	Part No.	Description	Remarks
51	3-009-208-01	SPRING, CASSETTE UP	
52	3-922-112-31	DAMPER	
53	3-009-186-71	CABINET (UPPER)	
54	3-923-151-11	CUSHION, RUBBER	
55	3-009-209-01	SPRING, CD UP	
56	1-452-899-11	MAGNET	
57	3-019-395-01	PLATE, CHUCKING	
58	3-009-187-71	LID, CD	
59	X-3377-208-1	HOLDER ASSY, CASSETTE	
* 60	3-009-206-01	SHAFT (MD)	
61	3-009-196-51	BUTTON (REC)	
62	3-009-199-51	BUTTON (PLAY)	
63	3-009-198-51	BUTTON (REW)	
64	3-009-197-51	BUTTON (FF)	
65	3-009-200-51	BUTTON (STOP)	
66	3-009-195-51	BUTTON (PAUSE)	
67	3-009-214-01	SPRING, REC	
68	4-951-620-01	SCREW (2.6 × 8), +BVTP	
* 69	1-668-333-11	REC SW BOARD	
70	3-009-201-51	HANDLE	
71	3-923-736-01	COVER, CD	
72	1-777-955-11	WIRE (FLAT TYPE) (16 CORE)	
73	3-910-095-31	RUBBER, VIBRATION PROOF	
74	3-910-095-21	RUBBER, VIBRATION PROOF	
75	1-639-678-12	CD MOTOR BOARD	
76	3-015-646-11	CUSHION (CD)	
77	3-831-441-11	CUSHION (B)	
S501	1-692-960-11	SWITCH, PUSH (1 KEY) (CD DOOR)	

6-3. REAR CABINET SECTION

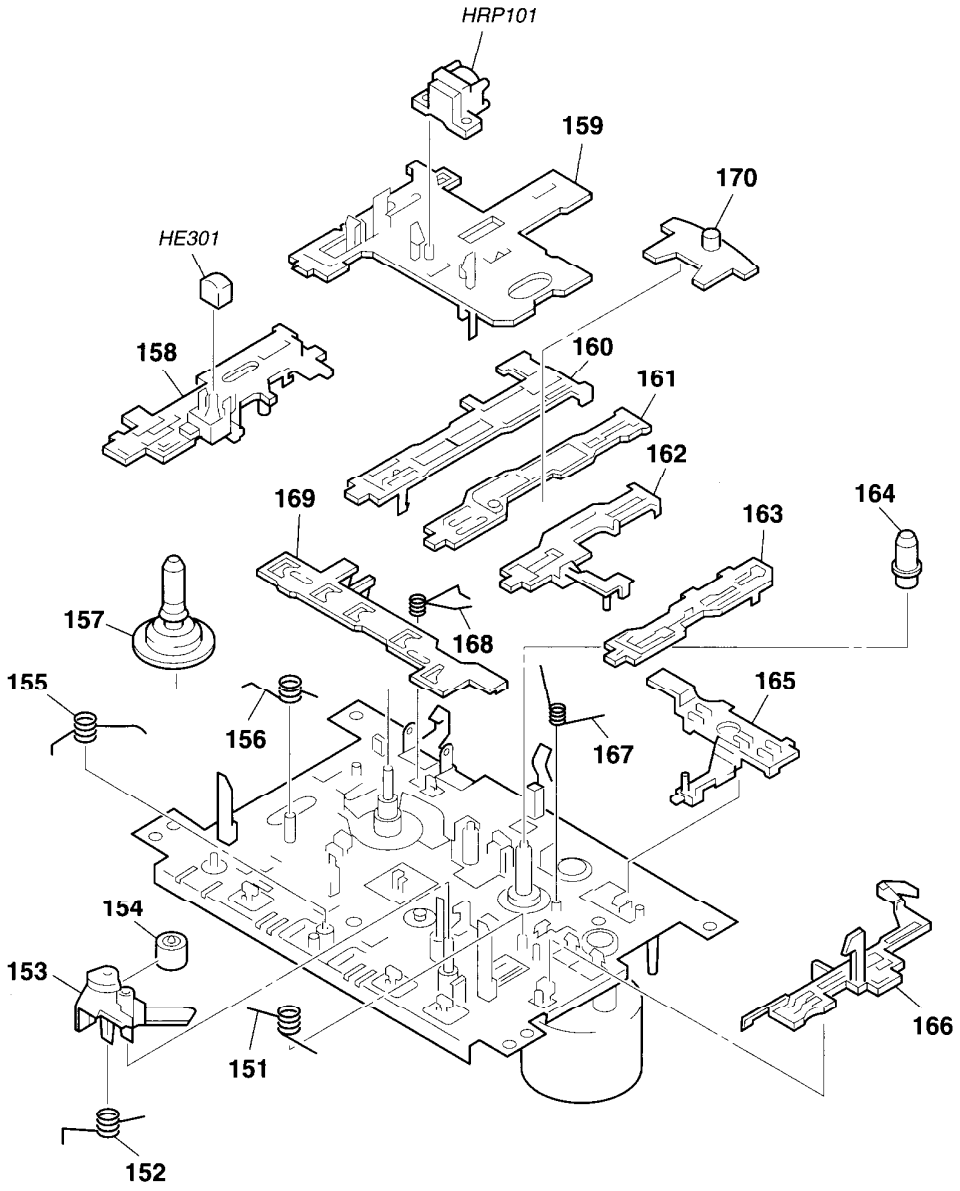


Ref. No.	Part No.	Description	Remarks
* 101	A-3321-297-A	POWER BOARD, COMPLETE (E92)	
* 101	A-3321-342-A	POWER BOARD, COMPLETE (E4,EA)	
* 102	A-3321-345-A	MAIN BOARD, COMPLETE (EA)	
* 102	A-3321-300-A	MAIN BOARD, COMPLETE (E92)	
* 102	A-3321-348-A	MAIN BOARD, COMPLETE (E4)	
* 103	1-668-331-11	VOL SEL BOARD (E4,EA)	
104	3-019-789-01	HOLDER (LCD)	
108	1-533-233-31	HOLDER, FUSE	
* 109	1-669-246-21	PRIMARY BOARD	
111	X-3377-213-1	CABINET (REAR) ASSY (E4,EA)	
111	X-3377-214-1	CABINET (REAR) ASSY (E92)	
112	3-009-192-01	GEAR, TUNING CAPACITOR	
113	3-009-211-01	SPRING, BATTERY TERMINAL COIL	

Ref. No.	Part No.	Description	Remarks
* 114	1-668-330-11	BATT BOARD	
115	3-831-441-11	CUSHION (B)	
116	3-831-441-99	CUSHION, SPEAKER	
117	3-009-210-01	SPRING, BATTERY TERMINAL COIL	
118	3-009-202-51	LID, BATTERY CASE	
119	3-020-861-51	TERMINAL, ANTENNA	
ANT1	1-501-883-11	ANTENNA, TELESCOPIC	
⚠ F901	1-532-467-31	FUSE, TIME-LAG 0.315A 250V (E4,EA)	
⚠ F902	1-532-464-31	FUSE, TIME-LAG 2.5A 250V (E4,EA)	
⚠ F902	1-533-618-11	FUSE, GLASS SYLINDERICAL 3.15A 250V (E92)	
⚠ T901	1-431-233-11	TRANSFORMER, POWER (E4,EA)	
⚠ T901	1-431-230-11	TRANSFORMER, POWER (E92)	
LCD501	1-801-914-11	DISPLAY PANEL, LIQUID CRYSTAL	

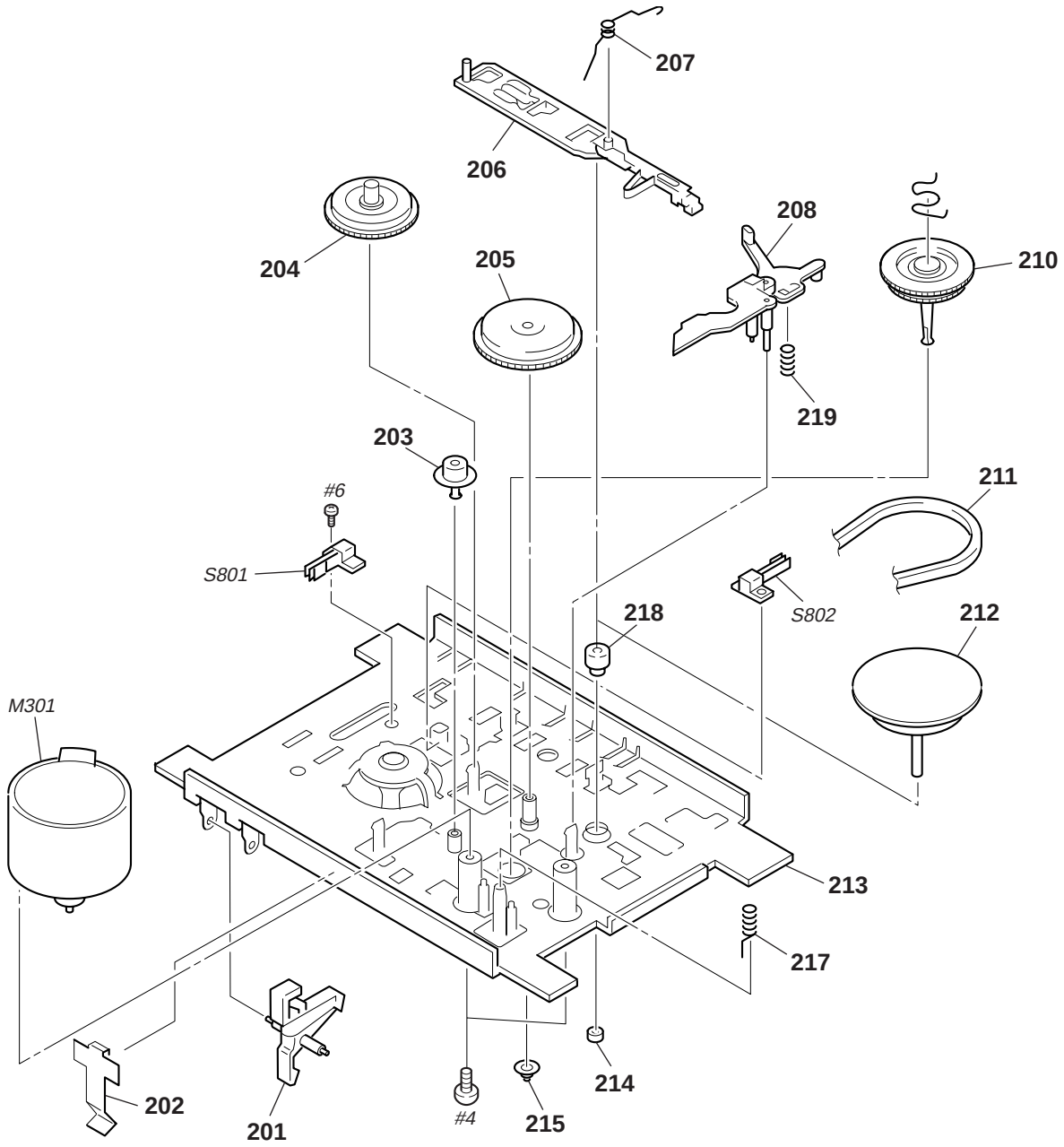
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

6-4. MECHANISM DECK SECTION (1) (MF-V10-117)



Ref. No.	Part No.	Description	Remarks
151	3-933-010-01	SPRING (S/P), TORSION	
152	3-933-025-01	SPRING (P), TORSION	
153	3-933-026-01	LEVER (P)	
154	3-933-024-01	ROLLER, PINCH	
155	3-933-019-01	SPRING (F/R), TORSION	
156	3-933-028-01	SPRING (FWD), TORSION	
157	3-933-016-01	GEAR (S REEL)	
158	3-008-590-01	SLIDER (REC)	
159	3-008-592-12	BASE (H), HEAD	
* 160	3-008-588-01	SLIDER (REW)	
* 161	3-008-589-01	SLIDER (FF)	
* 162	3-008-587-01	SLIDER (STOP)	
* 163	3-008-591-01	SLIDER (PAUSE)	
164	3-933-004-01	CLAW, REEL	
* 165	3-933-021-01	SLIDER (FRP)	
* 166	3-933-006-01	SLIDER (EJECT)	
167	3-934-833-01	SPRING (FRP)	
168	3-934-834-01	SPRING (BT)	
169	3-933-007-01	PLATE, LOCK	
* 170	3-012-114-01	LEVER (FR)	
HE301	1-543-876-11	HEAD (ERASE)	
HRP101	1-500-364-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	

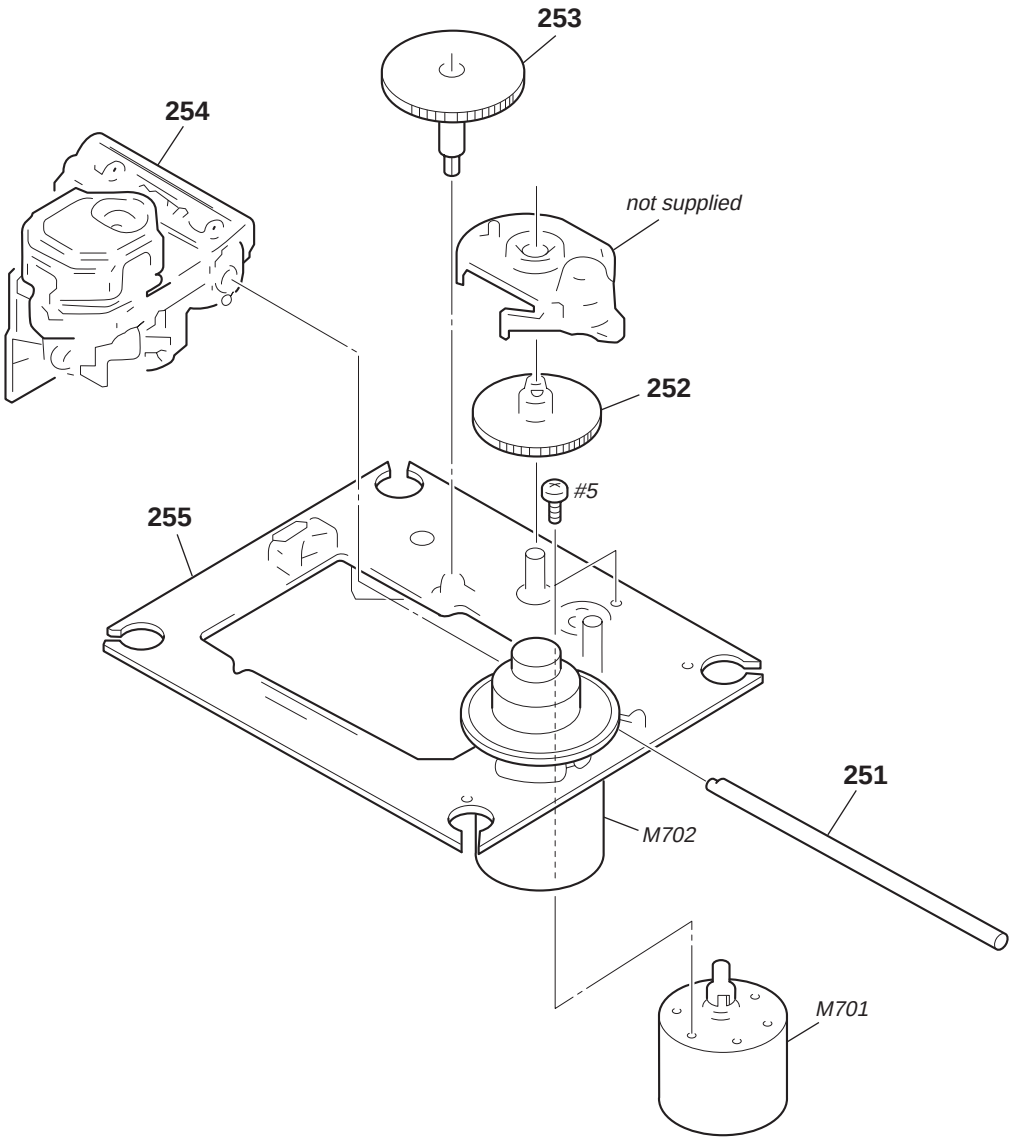
6-5. MECHANISM DECK SECTION (2)
(MF-V10-117)



Ref. No.	Part No.	Description	Remarks
201	3-933-029-01	LEVER, ERASING PREVENTION	
202	3-933-182-01	SPRING, CASSETTE	
203	3-932-995-01	GEAR (MID)	
204	X-3371-667-1	CLUTCH ASSY	
205	3-932-997-01	GEAR (CAM)	
* 206	3-932-999-01	SLIDER (SW)	
207	3-932-998-01	SPRING (GROUND), TORSION	
208	3-009-648-01	LEVER (S.OFF)	
210	X-3373-572-1	REEL ASSY (N), T	
211	3-933-020-01	BELT	

Ref. No.	Part No.	Description	Remarks
212	X-3372-924-1	FLYWHEEL ASSY	
213	3-932-993-01	CHASSIS, OUTSERT	
214	3-343-358-01	RING, RETAINING	
215	3-933-005-01	SPRING (CAM), COMPRESSION	
217	3-937-760-01	SPRING (GROUND), COMPRESSION	
218	3-934-336-01	BEARING	
219	3-939-383-02	SPRING, COMPRESSION	
M301	A-3320-446-A	MOTOR ASSY (CAPSTAN/REEL)	
S801	1-762-679-11	SWITCH, LEAF (MOTOR ON/OFF)	
S802	1-771-059-11	SWITCH, LEAF (TAPE PLAY)	

6-6. OPTICAL PICK-UP SECTION (KSM-213CDM)



Ref. No.	Part No.	Description	Remarks
251	2-626-908-01	SHAFT, SLED	
252	2-627-003-02	GEAR (B) (RP)	
253	2-626-907-01	GEAR (A)	
⚠254	8-848-483-05	KSS-213CDM	
255	X-2626-202-1	CHASSIS ASSY (MB) (RP), MOTOR (INCLUDING M702) (SPINDLE)	
M701	X-2625-769-1	GEAR ASSY (MB) (RP), MOTOR (SLED)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- Abbreviation
  E4 : 220V – 240V AC area
  EA : Saudi Arabia
  E92 : 120V AV area
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... , uPB... , µPB... , uPC... , µPC... , uPD..., µPD...

Ref. No.	Part No.	Description			Remarks
*	1-668-330-11	BATT BOARD			
		**********			
**********					
*	1-639-678-12	CD MOTOR BOARD			
		**********			
		< CONNECTOR >			
CNP707	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P			
		< SWITCH >			
S701	1-572-085-11	SWITCH, LEAF			
**********					
*	A-3321-102-A	CONTROL (1) BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C650	1-162-306-11	CERAMIC	0.01uF	20%	16V
C651	1-124-589-11	ELECT	47uF	20%	16V
C652	1-162-282-31	CERAMIC	100PF	10%	50V
		< CONNECTOR >			
* CNP603	1-580-171-11	PIN, CONNECTOR (PC BOARD) 10P			
		< RESISTOR >			
R650	1-249-417-11	CARBON	1K	5%	1/4W F
R651	1-247-843-11	CARBON	3.3K	5%	1/4W
R652	1-249-437-11	CARBON	47K	5%	1/4W
R653	1-249-437-11	CARBON	47K	5%	1/4W
R654	1-249-437-11	CARBON	47K	5%	1/4W
R655	1-249-437-11	CARBON	47K	5%	1/4W
R656	1-249-437-11	CARBON	47K	5%	1/4W
R657	1-249-431-11	CARBON	15K	5%	1/4W
R658	1-249-431-11	CARBON	15K	5%	1/4W
R659	1-249-431-11	CARBON	15K	5%	1/4W
R660	1-249-431-11	CARBON	15K	5%	1/4W
R661	1-249-431-11	CARBON	15K	5%	1/4W
		< SWITCH >			
S650	1-762-798-11	SWITCH, KEYBOARD (LOOP)			
S651	1-762-798-11	SWITCH, KEYBOARD (POWER)			
S652	1-762-798-11	SWITCH, KEYBOARD (FM)			
S654	1-762-798-11	SWITCH, KEYBOARD (TAPE)			
S655	1-762-798-11	SWITCH, KEYBOARD (AM)			
S656	1-762-798-11	SWITCH, KEYBOARD (CD)			
**********					

Ref. No.	Part No.	Description			Remarks
*	A-3321-100-A	CONTROL (2) BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C601	1-162-306-11	CERAMIC	0.01uF	20%	16V
		< RESISTOR >			
R601	1-249-415-11	CARBON	680	5%	1/4W F
R602	1-249-416-11	CARBON	820	5%	1/4W F
R603	1-249-418-11	CARBON	1.2K	5%	1/4W F
R604	1-249-437-11	CARBON	47K	5%	1/4W
R605	1-249-437-11	CARBON	47K	5%	1/4W
R606	1-249-416-11	CARBON	820	5%	1/4W F
R607	1-249-437-11	CARBON	47K	5%	1/4W
R608	1-249-437-11	CARBON	47K	5%	1/4W
R609	1-249-437-11	CARBON	47K	5%	1/4W
R613	1-249-437-11	CARBON	47K	5%	1/4W
R614	1-249-437-11	CARBON	47K	5%	1/4W
R615	1-249-415-11	CARBON	680	5%	1/4W F
R616	1-247-815-91	CARBON	220	5%	1/4W
R617	1-249-431-11	CARBON	15K	5%	1/4W
R618	1-249-431-11	CARBON	15K	5%	1/4W
R619	1-249-431-11	CARBON	15K	5%	1/4W
R620	1-249-431-11	CARBON	15K	5%	1/4W
R621	1-249-431-11	CARBON	15K	5%	1/4W
R625	1-249-425-11	CARBON	4.7K	5%	1/4W F
R626	1-249-417-11	CARBON	1K	5%	1/4W F
		< SWITCH >			
S601	1-762-798-11	SWITCH, KEYBOARD (PLAY/PAUSE)			
S602	1-762-798-11	SWITCH, KEYBOARD (STOP)			
S603	1-762-798-11	SWITCH, KEYBOARD (FF)			
S604	1-762-798-11	SWITCH, KEYBOARD (REW)			
S605	1-762-798-11	SWITCH, KEYBOARD (PLAY MODE)			
S606	1-762-798-11	SWITCH, KEYBOARD (DISPAY MODE)			
S607	1-762-798-11	SWITCH, KEYBOARD (MEGA BASS)			
S609	1-762-798-11	SWITCH, KEYBOARD (TONE–)			
S611	1-762-798-11	SWITCH, KEYBOARD (TONE+)			
S615	1-762-798-11	SWITCH, KEYBOARD (VOL–)			
S616	1-762-798-11	SWITCH, KEYBOARD (VOL+)			
**********					

HEADPHONE | LED | MAIN

Ref. No.	Part No.	Description			Remarks
*	1-668-345-11	HEADPHONE BOARD			
		**********			
		< CONNECTOR >			
CNP316	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
		< JACK >			
J301	1-568-267-11	JACK (PHONES)			
		< HOLDER >			
* KH313	1-565-385-11	HOLDER, CABLE 4P			
		< COIL >			
L151	1-410-509-11	INDUCTOR 10uH			
L151	1-410-526-11	INDUCTOR 10uH			
L251	1-410-509-11	INDUCTOR 10uH			
L251	1-410-526-11	INDUCTOR 10uH			
L351	1-410-509-11	INDUCTOR 10uH			
L351	1-410-526-11	INDUCTOR 10uH			
		< RESISTOR >			
R154	1-247-807-31	CARBON	100	5%	1/4W
R254	1-247-807-31	CARBON	100	5%	1/4W
**********					
*	1-668-349-11	LED BOARD			
		*********			
		< DIODE >			
D606	8-719-059-97	LED L-34HD (OPR/BATT)			
**********					
*	A-3321-348-A	MAIN BOARD, COMPLETE (E4)			
		**********			
*	A-3321-300-A	MAIN BOARD, COMPLETE (E92)			
		**********			
*	A-3321-345-A	MAIN BOARD, COMPLETE (EA)			
		**********			
	3-009-192-01	GEAR, TUNING CAPACITOR			
	3-019-789-01	HOLDER (LCD)			
	3-831-441-99	CUSHION, SPEAKER			
	7-621-775-20	SCREW +B 2.6 × 5			
		< CAPACITOR >			
C1	1-162-215-31	CERAMIC	47PF	5%	50V (E92)
C2	1-162-306-11	CERAMIC	0.01uF	20%	16V
C3	1-104-664-11	ELECT	47uF	20%	10V
C5	1-162-205-31	CERAMIC	18PF	5%	50V
C6	1-102-961-00	CERAMIC	27PF	5%	50V
C7	1-162-197-31	CERAMIC	6.8PF	10%	50V (EA)
C7	1-162-196-31	CERAMIC	5.6PF	10%	50V (E4,E92)
C8	1-162-222-31	CERAMIC	1.5PF	20%	50V (E92)
C8	1-162-193-31	CERAMIC	3.3PF	10%	50V (E4,EA)
C9	1-162-306-11	CERAMIC	0.01uF	20%	16V

Ref. No.	Part No.	Description			Remarks
C10	1-162-306-11	CERAMIC	0.01uF	20%	16V
C11	1-126-963-11	ELECT	4.7uF	20%	50V
C12	1-124-903-11	ELECT	1uF	20%	50V
C13	1-104-664-11	ELECT	47uF	20%	10V
C14	1-104-664-11	ELECT	47uF	20%	10V
C15	1-162-306-11	CERAMIC	0.01uF	20%	16V
C16	1-126-961-11	ELECT	2.2uF	20%	50V
C17	1-124-443-00	ELECT	100uF	20%	10V
C18	1-161-053-00	CERAMIC	0.015uF	10%	50V (E92)
C18	1-162-839-11	CERAMIC	0.01uF	10%	16V (E4,EA)
C19	1-161-053-00	CERAMIC	0.015uF	10%	50V (E92)
C19	1-162-839-11	CERAMIC	0.01uF	10%	16V (E4,EA)
C20	1-162-306-11	CERAMIC	0.01uF	20%	16V
C21	1-162-205-31	CERAMIC	18PF	5%	50V
C22	1-124-903-11	ELECT	1uF	20%	50V
C23	1-124-902-00	ELECT	0.47uF	20%	50V
C24	1-126-963-11	ELECT	4.7uF	20%	50V
C25	1-162-294-31	CERAMIC	0.001uF	10%	50V (E92)
C26	1-162-294-31	CERAMIC	0.001uF	10%	50V
C28	1-162-306-11	CERAMIC	0.01uF	20%	16V
C30	1-161-494-00	CERAMIC	0.022uF		25V
C101	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C102	1-104-664-11	ELECT	47uF	20%	10V
C103	1-161-020-11	CERAMIC	0.039uF	10%	16V
C104	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C105	1-162-215-31	CERAMIC	47PF	5%	50V
C106	1-124-902-00	ELECT	0.47uF	20%	50V
C107	1-162-282-31	CERAMIC	100PF	10%	50V
C201	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C202	1-104-664-11	ELECT	47uF	20%	10V
C203	1-161-020-11	CERAMIC	0.039uF	10%	16V
C204	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C205	1-162-215-31	CERAMIC	47PF	5%	50V
C206	1-124-902-00	ELECT	0.47uF	20%	50V
C207	1-162-282-31	CERAMIC	100PF	10%	50V
C301	1-124-443-00	ELECT	100uF	20%	10V
C302	1-124-443-00	ELECT	100uF	20%	10V
C303	1-162-294-31	CERAMIC	0.001uF	10%	50V
C304	1-124-443-00	ELECT	100uF	20%	10V
C305	1-162-294-31	CERAMIC	0.001uF	10%	50V
C307	1-162-294-31	CERAMIC	0.001uF	10%	50V
C311	1-162-294-31	CERAMIC	0.001uF	10%	50V
C312	1-104-664-11	ELECT	47uF	20%	10V
C313	1-130-481-00	MYLAR	0.0068uF	5%	50V
C313	1-130-481-00	MYLAR	0.0068uF	5%	50V
C501	1-124-907-11	ELECT	10uF	20%	50V
C502	1-162-306-11	CERAMIC	0.01uF	20%	16V
C503	1-104-664-11	ELECT	47uF	20%	10V
C504	1-161-494-00	CERAMIC	0.022uF		25V
C505	1-124-907-11	ELECT	10uF	20%	50V
C506	1-124-443-00	ELECT	100uF	20%	10V
C508	1-102-518-11	CERAMIC	33PF	5%	50V
C509	1-102-518-11	CERAMIC	33PF	5%	50V
C511	1-162-306-11	CERAMIC	0.01uF	20%	16V
C513	1-162-306-11	CERAMIC	0.01uF	20%	16V

Ref. No.	Part No.	Description			Remarks
C514	1-162-306-11	CERAMIC	0.01uF	20%	16V
C515	1-162-306-11	CERAMIC	0.01uF	20%	16V
C516	1-162-306-11	CERAMIC	0.01uF	20%	16V
C517	1-162-291-31	CERAMIC	560PF	10%	50V
C518	1-162-291-31	CERAMIC	560PF	10%	50V
C519	1-162-306-11	CERAMIC	0.01uF	20%	16V
C520	1-104-664-11	ELECT	47uF	20%	10V
C524	1-162-282-31	CERAMIC	100PF	10%	50V
C525	1-162-306-11	CERAMIC	0.01uF	20%	16V
C533	1-162-286-21	CERAMIC	220PF	10%	50V
C535	1-162-286-21	CERAMIC	220PF	10%	50V
C536	1-162-306-11	CERAMIC	0.01uF	20%	16V
C537	1-162-282-31	CERAMIC	100PF	10%	50V
C539	1-162-282-31	CERAMIC	100PF	10%	50V
C540	1-162-282-31	CERAMIC	100PF	10%	50V
C541	1-162-282-31	CERAMIC	100PF	10%	50V
C542	1-162-306-11	CERAMIC	0.01uF	20%	16V
C543	1-162-282-31	CERAMIC	100PF	10%	50V
C545	1-162-294-31	CERAMIC	0.001uF	10%	50V
C546	1-162-294-31	CERAMIC	0.001uF	10%	50V
C547	1-162-294-31	CERAMIC	0.001uF	10%	50V
C548	1-162-294-31	CERAMIC	0.001uF	10%	50V
C549	1-162-294-31	CERAMIC	0.001uF	10%	50V
C550	1-162-294-31	CERAMIC	0.001uF	10%	50V
C551	1-162-294-31	CERAMIC	0.001uF	10%	50V
C552	1-162-306-11	CERAMIC	0.01uF	20%	16V
C553	1-162-306-11	CERAMIC	0.01uF	20%	16V
C554	1-162-306-11	CERAMIC	0.01uF	20%	16V
C555	1-162-306-11	CERAMIC	0.01uF	20%	16V
C556	1-162-294-31	CERAMIC	0.001uF	10%	50V
C557	1-126-963-11	ELECT	4.7uF	20%	50V
C559	1-161-494-00	CERAMIC	0.022uF		25V
C560	1-124-443-00	ELECT	100uF	20%	10V
C570	1-162-294-31	CERAMIC	0.001uF	10%	50V
C701	1-162-600-11	CERAMIC	0.0047uF	20%	16V
C702	1-162-306-11	CERAMIC	0.01uF	20%	16V
C703	1-162-305-11	CERAMIC	0.0068uF	20%	16V
C704	1-130-491-00	MYLAR	0.047uF	5%	50V
C704	1-137-374-11	FILM	0.047uF	5%	50V
C705	1-162-306-11	CERAMIC	0.01uF	20%	16V
C706	1-104-664-11	ELECT	47uF	20%	10V
C707	1-161-494-00	CERAMIC	0.022uF		25V
C708	1-136-165-00	FILM	0.1uF	5%	50V
C709	1-136-165-00	FILM	0.1uF	5%	50V
C710	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C711	1-162-203-31	CERAMIC	15PF	5%	50V
C712	1-162-294-31	CERAMIC	0.001uF	10%	50V
C713	1-136-165-00	FILM	0.1uF	5%	50V
C714	1-136-165-00	FILM	0.1uF	5%	50V
C715	1-126-233-11	ELECT	22uF	20%	50V
C716	1-136-165-00	FILM	0.1uF	5%	50V
C717	1-136-165-00	FILM	0.1uF	5%	50V
C718	1-131-377-00	TANTALUM	10uF	10%	10V
C719	1-104-664-11	ELECT	47uF	20%	10V
C720	1-162-306-11	CERAMIC	0.01uF	20%	16V
C721	1-130-489-00	MYLAR	0.033uF	5%	50V
C721	1-130-489-00	MYLAR	0.033uF	5%	50V
C722	1-130-489-00	MYLAR	0.033uF	5%	50V
C722	1-130-489-00	MYLAR	0.033uF	5%	50V
C723	1-162-306-11	CERAMIC	0.01uF	20%	16V
C724	1-130-489-00	MYLAR	0.033uF	5%	50V
C724	1-130-489-00	MYLAR	0.033uF	5%	50V
C725	1-130-486-00	MYLAR	0.018uF	10%	50V
C725	1-137-440-11	FILM	0.018uF	5%	50V
C727	1-162-199-31	CERAMIC	10PF	5%	50V
C728	1-104-664-11	ELECT	47uF	20%	10V
C729	1-126-962-11	ELECT	3.3uF	20%	50V
C730	1-130-493-00	MYLAR	0.068uF	5%	50V
C730	1-137-375-11	FILM	0.068uF	5%	50V
C731	1-162-215-31	CERAMIC	47PF	5%	50V
C732	1-162-306-11	CERAMIC	0.01uF	20%	16V
C735	1-162-282-31	CERAMIC	100PF	10%	50V
C736	1-162-282-31	CERAMIC	100PF	10%	50V
C737	1-162-306-11	CERAMIC	0.01uF	20%	16V
C738	1-162-282-31	CERAMIC	100PF	10%	50V
C739	1-162-282-31	CERAMIC	100PF	10%	50V
C740	1-162-282-31	CERAMIC	100PF	10%	50V
C741	1-162-305-11	CERAMIC	0.0068uF	20%	16V
C742	1-162-306-11	CERAMIC	0.01uF	20%	16V
C743	1-104-664-11	ELECT	47uF	20%	10V
C744	1-124-472-11	ELECT	470uF	20%	10V
C745	1-124-443-00	ELECT	100uF	20%	10V
C746	1-162-282-31	CERAMIC	100PF	10%	50V
C750	1-162-294-31	CERAMIC	0.001uF	10%	50V
C751	1-162-306-11	CERAMIC	0.01uF	20%	16V
C752	1-136-165-00	FILM	0.1uF	5%	50V
C753	1-124-443-00	ELECT	100uF	20%	10V
C754	1-162-306-11	CERAMIC	0.01uF	20%	16V
C755	1-164-159-21	CERAMIC	0.1uF		50V
C757	1-162-294-31	CERAMIC	0.001uF	10%	50V
C758	1-162-286-21	CERAMIC	220PF	10%	50V
C759	1-124-443-00	ELECT	100uF	20%	10V
C760	1-137-194-81	FILM	0.47uF	5%	50V
C761	1-162-199-31	CERAMIC	10PF	5%	50V
C763	1-162-290-31	CERAMIC	470PF	10%	50V
C764	1-162-199-31	CERAMIC	10PF	5%	50V
C765	1-162-286-21	CERAMIC	220PF	10%	50V
C768	1-162-306-11	CERAMIC	0.01uF	20%	16V
C769	1-136-169-00	FILM	0.22uF	5%	50V
C772	1-162-306-11	CERAMIC	0.01uF	20%	16V
C773	1-124-443-00	ELECT	100uF	20%	10V
C774	1-161-494-00	CERAMIC	0.022uF		25V
C775	1-164-159-21	CERAMIC	0.1uF		50V
C776	1-162-306-11	CERAMIC	0.01uF	20%	16V
C777	1-164-159-21	CERAMIC	0.1uF		50V
C780	1-162-284-31	CERAMIC	150PF	10%	50V
C781	1-162-292-31	CERAMIC	680PF	10%	50V
C782	1-126-963-11	ELECT	4.7uF	20%	50V
C790	1-162-284-31	CERAMIC	150PF	10%	50V
C791	1-162-292-31	CERAMIC	680PF	10%	50V
C792	1-126-963-11	ELECT	4.7uF	20%	50V
C793	1-162-306-11	CERAMIC	0.01uF	20%	16V
C798	1-162-282-31	CERAMIC	100PF	10%	50V
C799	1-130-491-00	MYLAR	0.047uF	5%	50V
C799	1-137-374-11	FILM	0.047uF	5%	50V

MAIN

Ref. No.	Part No.	Description	Remarks
		< FILTER >	
CF1	1-760-738-61	FILTER, CERAMIC	
CF2	1-577-072-11	FILTER, CERAMIC	
		< CONNECTOR >	
CNP301	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P	
CNP302	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P	
CNP311	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P	
CNP314	1-695-105-11	PIN, CONNECTOR (PC BOARD) 3P	
* CNP502	1-784-724-11	PIN, CONNECTOR	
* CNP503	1-580-162-11	PIN, CONNECTOR (PC BOARD) 10P	
* CNP505	1-580-160-11	PIN, CONNECTOR (PC BOARD) 8P	
* CNP506	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P	
CNP701	1-770-674-11	CONNECTOR, FFC/FPC 16P	
		< VARIABLE CAPACITOR >	
CV1	1-141-559-11	CAP, VAR (E92)	
CV1	1-141-561-11	CAP, VAR (E4,EA)	
		< TRIMMER >	
CT1	1-141-559-11	CAP, VAR (E92)	
CT1	1-141-561-11	CAP, VAR (E4,EA)	
		< DIODE >	
D1	8-719-991-33	DIODE 1SS133T-77	
D2	8-719-991-33	DIODE 1SS133T-77	
D501	8-719-991-33	DIODE 1SS133T-77	
D502	8-719-991-33	DIODE 1SS133T-77	
D503	8-719-991-33	DIODE 1SS133T-77	
D504	8-719-991-33	DIODE 1SS133T-77	
D506	8-719-991-33	DIODE 1SS133T-77	
D507	8-719-991-33	DIODE 1SS133T-77	
D508	8-719-991-33	DIODE 1SS133T-77	
D509	8-719-991-33	DIODE 1SS133T-77	
D511	8-719-991-33	DIODE 1SS133T-77	
D512	8-719-991-33	DIODE 1SS133T-77	
D513	8-719-991-33	DIODE 1SS133T-77	
		< FERRITE BEAD >	
FB702	1-410-509-11	INDUCTOR 10uH	
FB704	1-410-509-11	INDUCTOR 10uH	
FB705	1-410-397-21	FERRITE BEAD INDUCTOR	
FB706	1-410-397-21	FERRITE BEAD INDUCTOR	
FB707	1-410-509-11	INDUCTOR 10uH	
		< FILTER >	
FL1	1-236-711-21	FILTER, BAND PASS (E4,EA)	
		< IC >	
IC1	8-752-050-20	IC CXA1238S	
IC301	8-759-264-71	IC TA2068N	
IC501	8-752-895-17	IC CXP83416A-602Q	
IC502	8-759-095-60	IC S-81250PG	
IC503	8-759-165-81	IC PST600D-T	
IC701	8-752-082-14	IC CXA1992BR	
IC702	8-759-473-42	IC BA6898FP	
IC703	8-752-384-13	IC CXD2589Q	

Ref. No.	Part No.	Description			Remarks
		< HOLDER >			
* KH504	1-573-287-11	HOLDER, CABLE 2P			
		< COIL >			
L1	1-406-999-11	COIL, AIR-CORE (EA)			
L1	1-406-998-11	COIL, AIR-CORE (E4,E92)			
L2	1-406-957-21	COIL (WITH CORE) (EA)			
L2	1-411-387-11	COIL, AIR-CORE (E4,E92)			
L3	1-501-841-11	ANTENNA, FERRITE-ROD (MW)			
L4	1-406-040-00	COIL (OSC)			
L501	1-412-852-11	INDUCTOR 47uH			
L502	1-408-117-00	INDUCTOR 10uH			
		< LIQUID CRYSTAL DISPLAY >			
LCD501	1-801-914-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q1	8-729-029-92	TRANSISTOR DTC143ESA-TP			
Q301	8-729-281-53	TRANSISTOR 2SC1815-GR			
Q501	8-729-029-37	TRANSISTOR DTA123JSA-TP			
Q502	8-729-029-66	TRANSISTOR DTC114ESA			
Q503	8-729-029-26	TRANSISTOR DTA114YSA			
Q504	8-729-195-23	TRANSISTOR 2SA952			
Q505	8-729-029-26	TRANSISTOR DTA114YSA			
Q701	8-729-195-23	TRANSISTOR 2SA952			
		< RESISTOR >			
R1	1-247-815-91	CARBON	220	5%	1/4W (E92)
R2	1-249-421-11	CARBON	2.2K	5%	1/4W F
R3	1-249-441-11	CARBON	100K	5%	1/4W
R4	1-247-843-11	CARBON	3.3K	5%	1/4W (E92)
R4	1-162-195-31	CERAMIC	4.7PF	10%	50V (E4,EA)
R5	1-249-413-11	CARBON	470	5%	1/4W F (E92)
R5	1-249-411-11	CARBON	330	5%	1/4W (E4,EA)
R6	1-249-403-11	CARBON	68	5%	1/4W F
R7	1-249-427-11	CARBON	6.8K	5%	1/4W F
R8	1-249-427-11	CARBON	6.8K	5%	1/4W F
R13	1-249-421-11	CARBON	2.2K	5%	1/4W F
R14	1-249-429-11	CARBON	10K	5%	1/4W
R101	1-249-431-11	CARBON	15K	5%	1/4W
R102	1-249-404-00	CARBON	82	5%	1/4W F
R103	1-249-441-11	CARBON	100K	5%	1/4W
R104	1-247-843-11	CARBON	3.3K	5%	1/4W
R105	1-249-417-11	CARBON	1K	5%	1/4W F
R110	1-249-417-11	CARBON	1K	5%	1/4W F
R111	1-249-429-11	CARBON	10K	5%	1/4W
R112	1-249-431-11	CARBON	15K	5%	1/4W
R113	1-249-415-11	CARBON	680	5%	1/4W F
R201	1-249-431-11	CARBON	15K	5%	1/4W
R202	1-249-404-00	CARBON	82	5%	1/4W F
R203	1-249-441-11	CARBON	100K	5%	1/4W
R204	1-247-843-11	CARBON	3.3K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R205	1-249-417-11	CARBON	1K	5%	1/4W F
R210	1-249-417-11	CARBON	1K	5%	1/4W F
R211	1-249-429-11	CARBON	10K	5%	1/4W
R212	1-249-431-11	CARBON	15K	5%	1/4W
R213	1-249-415-11	CARBON	680	5%	1/4W F
R301	1-247-903-00	CARBON	1M	5%	1/4W
R303	1-249-417-11	CARBON	1K	5%	1/4W F
R304	1-249-429-11	CARBON	10K	5%	1/4W
R311	1-249-406-11	CARBON	120	5%	1/4W F
R312	1-247-863-91	CARBON	22K	5%	1/4W
R313	1-249-389-11	CARBON	4.7	5%	1/4W F
R501	1-249-417-11	CARBON	1K	5%	1/4W F
R502	1-249-417-11	CARBON	1K	5%	1/4W F
R503	1-249-417-11	CARBON	1K	5%	1/4W F
R504	1-249-413-11	CARBON	470	5%	1/4W F
R507	1-249-417-11	CARBON	1K	5%	1/4W F
R508	1-249-417-11	CARBON	1K	5%	1/4W F
R509	1-249-417-11	CARBON	1K	5%	1/4W F
R510	1-249-417-11	CARBON	1K	5%	1/4W F
R511	1-249-417-11	CARBON	1K	5%	1/4W F
R512	1-249-429-11	CARBON	10K	5%	1/4W
R513	1-249-429-11	CARBON	10K	5%	1/4W
R514	1-249-417-11	CARBON	1K	5%	1/4W F
R515	1-249-417-11	CARBON	1K	5%	1/4W F
R516	1-249-417-11	CARBON	1K	5%	1/4W F
R517	1-249-417-11	CARBON	1K	5%	1/4W F
R518	1-249-417-11	CARBON	1K	5%	1/4W F
R519	1-249-417-11	CARBON	1K	5%	1/4W F
R520	1-249-417-11	CARBON	1K	5%	1/4W F
R521	1-249-417-11	CARBON	1K	5%	1/4W F
R522	1-249-417-11	CARBON	1K	5%	1/4W F
R523	1-249-429-11	CARBON	10K	5%	1/4W
R525	1-249-417-11	CARBON	1K	5%	1/4W F
R526	1-249-417-11	CARBON	1K	5%	1/4W F
R527	1-249-417-11	CARBON	1K	5%	1/4W F
R528	1-249-417-11	CARBON	1K	5%	1/4W F
R529	1-249-417-11	CARBON	1K	5%	1/4W F
R530	1-249-417-11	CARBON	1K	5%	1/4W F
R533	1-249-411-11	CARBON	330	5%	1/4W
R534	1-247-863-91	CARBON	22K	5%	1/4W
R535	1-249-429-11	CARBON	10K	5%	1/4W
R536	1-249-429-11	CARBON	10K	5%	1/4W
R537	1-249-429-11	CARBON	10K	5%	1/4W
R538	1-249-417-11	CARBON	1K	5%	1/4W F
R539	1-249-417-11	CARBON	1K	5%	1/4W F
R540	1-249-417-11	CARBON	1K	5%	1/4W F
R541	1-249-417-11	CARBON	1K	5%	1/4W F
R558	1-249-425-11	CARBON	4.7K	5%	1/4W F
R559	1-249-429-11	CARBON	10K	5%	1/4W
R560	1-249-425-11	CARBON	4.7K	5%	1/4W F
R561	1-249-429-11	CARBON	10K	5%	1/4W
R562	1-249-425-11	CARBON	4.7K	5%	1/4W F
R563	1-249-425-11	CARBON	4.7K	5%	1/4W F
R564	1-249-429-11	CARBON	10K	5%	1/4W
R569	1-247-807-31	CARBON	100	5%	1/4W
R570	1-249-429-11	CARBON	10K	5%	1/4W
R571	1-249-429-11	CARBON	10K	5%	1/4W
R572	1-249-417-11	CARBON	1K	5%	1/4W F
R573	1-249-437-11	CARBON	47K	5%	1/4W
R574	1-249-441-11	CARBON	100K	5%	1/4W
R575	1-249-425-11	CARBON	4.7K	5%	1/4W F
R576	1-249-425-11	CARBON	4.7K	5%	1/4W F
R577	1-249-421-11	CARBON	2.2K	5%	1/4W F
R578	1-249-425-11	CARBON	4.7K	5%	1/4W F
R581	1-249-417-11	CARBON	1K	5%	1/4W F
R582	1-249-437-11	CARBON	47K	5%	1/4W
R584	1-247-863-91	CARBON	22K	5%	1/4W
R587	1-249-441-11	CARBON	100K	5%	1/4W
R588	1-249-429-11	CARBON	10K	5%	1/4W
R589	1-249-421-11	CARBON	2.2K	5%	1/4W F
R590	1-249-413-11	CARBON	470	5%	1/4W F
R591	1-249-428-11	CARBON	8.2K	5%	1/4W F
R592	1-249-428-11	CARBON	8.2K	5%	1/4W F
R593	1-249-437-11	CARBON	47K	5%	1/4W
R594	1-249-437-11	CARBON	47K	5%	1/4W
R595	1-249-437-11	CARBON	47K	5%	1/4W
R701	1-249-440-11	CARBON	82K	5%	1/4W
R702	1-249-439-11	CARBON	68K	5%	1/4W
R703	1-249-439-11	CARBON	68K	5%	1/4W
R704	1-249-439-11	CARBON	68K	5%	1/4W
R705	1-249-439-11	CARBON	68K	5%	1/4W
R706	1-249-440-11	CARBON	82K	5%	1/4W
R707	1-247-887-00	CARBON	220K	5%	1/4W
R709	1-247-883-00	CARBON	150K	5%	1/4W
R710	1-247-885-00	CARBON	180K	5%	1/4W
R711	1-247-883-00	CARBON	150K	5%	1/4W
R712	1-247-891-00	CARBON	330K	5%	1/4W
R714	1-249-428-11	CARBON	8.2K	5%	1/4W F
R715	1-249-429-11	CARBON	10K	5%	1/4W
R716	1-249-429-11	CARBON	10K	5%	1/4W
R717	1-247-903-00	CARBON	1M	5%	1/4W
R718	1-247-899-11	CARBON	680K	5%	1/4W
R719	1-249-393-11	CARBON	10	5%	1/4W F
R720	1-249-430-11	CARBON	12K	5%	1/4W
R721	1-247-862-11	CARBON	20K	5%	1/4W
R722	1-249-441-11	CARBON	100K	5%	1/4W
R723	1-247-896-11	CARBON	510K	5%	1/4W
R724	1-249-439-11	CARBON	68K	5%	1/4W
R725	1-247-883-00	CARBON	150K	5%	1/4W
R726	1-247-876-11	CARBON	75K	5%	1/4W
R727	1-249-437-11	CARBON	47K	5%	1/4W
R728	1-249-441-11	CARBON	100K	5%	1/4W
R729	1-249-430-11	CARBON	12K	5%	1/4W
R730	1-249-435-11	CARBON	33K	5%	1/4W
R731	1-247-863-91	CARBON	22K	5%	1/4W
R734	1-247-843-11	CARBON	3.3K	5%	1/4W
R735	1-249-427-11	CARBON	6.8K	5%	1/4W F
R736	1-247-863-91	CARBON	22K	5%	1/4W
R737	1-247-843-11	CARBON	3.3K	5%	1/4W
R738	1-249-435-11	CARBON	33K	5%	1/4W
R741	1-249-417-11	CARBON	1K	5%	1/4W F
R742	1-249-417-11	CARBON	1K	5%	1/4W F
R744	1-249-417-11	CARBON	1K	5%	1/4W F
R745	1-249-417-11	CARBON	1K	5%	1/4W F
R746	1-249-417-11	CARBON	1K	5%	1/4W F
R747	1-249-437-11	CARBON	47K	5%	1/4W
R757	1-249-417-11	CARBON	1K	5%	1/4W F
R758	1-249-437-11	CARBON	47K	5%	1/4W
R760	1-249-437-11	CARBON	47K	5%	1/4W
R764	1-247-843-11	CARBON	3.3K	5%	1/4W

MAIN POWER

Ref. No.	Part No.	Description			Remarks
R765	1-249-417-11	CARBON	1K	5%	1/4W F
R766	1-249-429-11	CARBON	10K	5%	1/4W
R768	1-247-903-00	CARBON	1M	5%	1/4W
R771	1-249-429-11	CARBON	10K	5%	1/4W
R772	1-247-887-00	CARBON	220K	5%	1/4W
R780	1-249-430-11	CARBON	12K	5%	1/4W
R781	1-249-430-11	CARBON	12K	5%	1/4W
R782	1-249-430-11	CARBON	12K	5%	1/4W
R790	1-249-430-11	CARBON	12K	5%	1/4W
R791	1-249-430-11	CARBON	12K	5%	1/4W
R792	1-249-430-11	CARBON	12K	5%	1/4W
		< VARIABLE RESISTOR >			
RV1	1-228-995-00	RES, ADJ, METAL22K			
		< TRANSFORMER >			
T1	1-409-944-11	COIL (DET)			
T2	1-416-522-11	COIL (IFT)			
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR			
		< VIBRATOR >			
X501	1-767-184-11	VIBRATOR, CERAMIC 4MHz			
X502	1-760-587-11	VIBRATOR, CERAMIC 500kHz			
X701	1-760-793-11	VIBRATOR, CERAMIC 16.9344MHz			
**********					
*	A-3321-342-A	POWER BOARD, COMPLETE (E4,EA)			
		**********			
*	A-3321-297-A	POWER BOARD, COMPLETE (E92)			
		**********			
	7-685-647-79	SCREW +BVTP 3 × 10 TYPE2 N-S			
		< CAPACITOR >			
C141	1-124-907-11	ELECT	10uF	20%	50V
C142	1-162-294-31	CERAMIC	0.001uF	10%	50V
C143	1-124-907-11	ELECT	10uF	20%	50V
C144	1-162-848-11	CERAMIC	0.056uF	10%	16V
C145	1-162-848-11	CERAMIC	0.056uF	10%	16V
C146	1-162-839-11	CERAMIC	0.01uF	10%	16V
C147	1-124-903-11	ELECT	1uF	20%	50V
C181	1-104-664-11	ELECT	47uF	20%	10V
C182	1-162-294-31	CERAMIC	0.001uF	10%	50V
C183	1-124-443-00	ELECT	100uF	20%	10V
C184	1-124-473-11	ELECT	1000uF	20%	10V
C185	1-136-165-00	FILM	0.1uF	5%	50V
C186	1-162-282-31	CERAMIC	100PF	10%	50V
C241	1-124-907-11	ELECT	10uF	20%	50V
C242	1-162-294-31	CERAMIC	0.001uF	10%	50V
C243	1-124-907-11	ELECT	10uF	20%	50V
C244	1-162-848-11	CERAMIC	0.056uF	10%	16V
C245	1-162-848-11	CERAMIC	0.056uF	10%	16V
C246	1-162-839-11	CERAMIC	0.01uF	10%	16V
C247	1-124-903-11	ELECT	1uF	20%	50V
C281	1-104-664-11	ELECT	47uF	20%	10V
C282	1-162-294-31	CERAMIC	0.001uF	10%	50V
C283	1-124-443-00	ELECT	100uF	20%	10V
C284	1-124-473-11	ELECT	1000uF	20%	10V
C285	1-136-165-00	FILM	0.1uF	5%	50V

Ref. No.	Part No.	Description			Remarks
C286	1-162-282-31	CERAMIC	100PF	10%	50V
C333	1-104-664-11	ELECT	47uF	20%	10V
C334	1-126-961-11	ELECT	2.2uF	20%	50V
C335	1-124-907-11	ELECT	10uF	20%	50V
C336	1-124-907-11	ELECT	10uF	20%	50V
C337	1-104-666-11	ELECT	220uF	20%	6.3V
C338	1-161-494-00	CERAMIC	0.022uF		25V
C340	1-162-286-21	CERAMIC	220PF	10%	50V
C341	1-162-286-21	CERAMIC	220PF	10%	50V
C342	1-162-286-21	CERAMIC	220PF	10%	50V
C343	1-161-494-00	CERAMIC	0.022uF		25V
C347	1-124-443-00	ELECT	100uF	20%	10V
C348	1-124-903-11	ELECT	1uF	20%	50V
C352	1-162-306-11	CERAMIC	0.01uF	20%	16V
C353	1-101-005-00	CERAMIC	22000PF		50V
C361	1-162-282-31	CERAMIC	100PF	10%	50V
C381	1-126-937-11	ELECT	4700uF	20%	16V
C382	1-126-941-11	ELECT	470uF	20%	16V
C951	1-162-306-11	CERAMIC	0.01uF	20%	16V
C952	1-162-306-11	CERAMIC	0.01uF	20%	16V
C953	1-124-443-00	ELECT	100uF	20%	10V
C954	1-124-443-00	ELECT	100uF	20%	10V
C955	1-162-306-11	CERAMIC	0.01uF	20%	16V
C957	1-162-306-11	CERAMIC	0.01uF	20%	16V
C958	1-162-306-11	CERAMIC	0.01uF	20%	16V
C959	1-162-306-11	CERAMIC	0.01uF	20%	16V
		< CONNECTOR >			
* CNP308	1-580-165-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP313	1-580-165-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP902	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
		< DIODE >			
D351	8-719-991-33	DIODE 1SS133T-77			
D352	8-719-991-33	DIODE 1SS133T-77			
D951	8-719-991-33	DIODE 1SS133T-77			
D952	8-719-991-33	DIODE 1SS133T-77			
D953	8-719-991-33	DIODE 1SS133T-77			
D954	8-719-109-98	DIODE RD6.8ES-B3			
D955	8-719-991-33	DIODE 1SS133T-77			
D957	8-719-109-90	DIODE RD5.6ESB3			
		< IC >			
IC302	8-759-432-41	IC BH3854AS			
IC304	8-759-820-22	IC LA4597			
		< HOLDER >			
* KH314	1-565-384-11	HOLDER, CABLE 3P			
		< TRANSISTOR >			
Q308	8-729-029-66	TRANSISTOR DTC114ESA			
Q309	8-729-036-89	TRANSISTOR KTC3198GR-AT			
Q951	8-729-195-23	TRANSISTOR 2SA952			
Q952	8-729-029-92	TRANSISTOR DTC143ESA-TP			
Q953	8-729-021-82	TRANSISTOR 2SD2396K			
Q954	8-729-011-92	TRANSISTOR 2SC2001TP-K1K2			

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R140	1-249-425-11	CARBON	4.7K	5%	1/4W F
R145	1-249-425-11	CARBON	4.7K	5%	1/4W F
R155	1-249-429-11	CARBON	10K	5%	1/4W
R181	1-249-430-11	CARBON	12K	5%	1/4W
R182	1-249-417-11	CARBON	1K	5%	1/4W F
R183	1-247-807-31	CARBON	100	5%	1/4W
R240	1-249-425-11	CARBON	4.7K	5%	1/4W F
R245	1-249-425-11	CARBON	4.7K	5%	1/4W F
R255	1-249-429-11	CARBON	10K	5%	1/4W
R281	1-249-430-11	CARBON	12K	5%	1/4W
R282	1-249-417-11	CARBON	1K	5%	1/4W F
R283	1-247-807-31	CARBON	100	5%	1/4W
R338	1-249-427-11	CARBON	6.8K	5%	1/4W F
R339	1-249-427-11	CARBON	6.8K	5%	1/4W F
R340	1-249-427-11	CARBON	6.8K	5%	1/4W F
R341	1-249-431-11	CARBON	15K	5%	1/4W
R342	1-249-417-11	CARBON	1K	5%	1/4W F
R344	1-249-434-11	CARBON	27K	5%	1/4W
R345	1-249-441-11	CARBON	100K	5%	1/4W
R351	1-249-399-11	CARBON	33	5%	1/4W F
R951	1-249-437-11	CARBON	47K	5%	1/4W
R952	1-249-417-11	CARBON	1K	5%	1/4W F
R953	1-247-815-91	CARBON	220	5%	1/4W
R954	1-247-807-31	CARBON	100	5%	1/4W
R955	1-247-807-31	CARBON	100	5%	1/4W
R956	1-249-413-11	CARBON	470	5%	1/4W F
**********					
*	1-669-246-21	PRIMARY BOARD			
		**********			
	1-533-233-31	HOLDER, FUSE			
		< CAPACITOR >			
C901	1-101-005-00	CERAMIC	22000PF		50V
C902	1-101-005-00	CERAMIC	22000PF		50V
C903	1-101-005-00	CERAMIC	22000PF		50V
C904	1-101-005-00	CERAMIC	22000PF		50V
C907	1-162-294-31	CERAMIC	0.001uF	10%	50V
C908	1-124-907-11	ELECT	10uF	20%	50V
		< JACK >			
⚠CNJ901	1-526-818-11	INLET, AC (AC IN) (E92)			
⚠CNJ901	1-526-838-11	INLET, AC 2P (AC IN) (E4,EA)			
		< CONNECTOR >			
* CNP903	1-784-055-11	PIN, CONNECTOR (PWB)5P (E4,EA)			
		< DIODE >			
D901	8-719-063-79	DIODE 1N4002B			
D902	8-719-063-79	DIODE 1N4002B			
D903	8-719-063-79	DIODE 1N4002B			
D904	8-719-063-79	DIODE 1N4002B			
D905	8-719-991-33	DIODE 1SS133T-77			
D906	8-719-991-33	DIODE 1SS133T-77			
D907	8-719-991-33	DIODE 1SS133T-77			
D908	8-719-991-33	DIODE 1SS133T-77			
		< FERRITE BEAD >			
FB901	1-410-397-21	FERRITE BEAD INDUCTOR (E4,EA)			
		< HOLDER >			
* KH901	1-573-287-11	HOLDER, CABLE 2P			
* KH902	1-565-385-11	HOLDER, CABLE 4P			
		< LINE FILTER >			
⚠LF901	1-402-663-11	TRANSFORMER, LINE FILTER (LFT)			
		< RESISTOR >			
R901	1-247-807-31	CARBON	100	5%	1/4W
R902	1-249-401-11	CARBON	47	5%	1/4W F
R903	1-249-393-11	CARBON	10	5%	1/4W F
R904	1-247-807-31	CARBON	100	5%	1/4W
**********					
*	1-668-333-11	REC SW BOARD			
		**********			
		< SWITCH >			
S301	1-762-565-11	SWITCH, SLIDE (REC/PB)			
**********					
*	1-668-350-11	RMC BOARD			
		**********			
		< CAPACITOR >			
C680	1-161-494-00	CERAMIC	0.022uF		25V
		< IC >			
IC601	8-749-014-66	IC NJL64H400A			
**********					
*	1-668-331-11	VOL SEL BOARD (E4,EA)			
		**********			
		< SWITCH >			
⚠S901	1-552-921-00	SWITCH, POWER (VOLTAGE SELECTOR)			
**********					

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS	
		**********	
56	1-452-899-11	MAGNET	
72	1-777-955-11	WIRE (FLAT TYPE) (16 CORE)	
⚠254	8-848-483-05	OPTICAL PICK-UP BLOCK KSS-213/C/Q-RP	
ANT1	1-501-883-21	ANTENNA, TELESCOPIC	
⚠F901	1-532-467-31	FUSE,TIME LAG 0.315A/250V (E4,EA)	
⚠F902	1-532-464-31	FUSE,TIME LAG 2.5A/250V (E4,EA)	
⚠F902	1-533-618-11	FUSE, GLASS CYLINDERICAL 3.15A/250V	(E92)
S501	1-692-960-11	SWITCH, PUSH (1 KEY)	
S801	1-762-679-11	SWITCH, LEAF (MOTOR ON/OFF)	
S802	1-771-059-11	SWITCH, LEAF (TAPE PLAY)	
⚠T901	1-431-230-11	TRANSFORMER, POWER (E92)	
⚠T901	1-431-233-11	TRANSFORMER, POWER (E4,EA)	
HE901	1-543-876-11	HEAD (ERASE)	
SP901	1-505-934-11	SPEAKER (10cm)(L)	
SP902	1-505-934-11	SPEAKER (10cm)(R)	
HRP901	1-500-454-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-557-287-11	CORD, POWER (E92)	
	1-569-008-21	ADAPTOR, CONVERSION (2P) (E4,EA)	
⚠	1-696-820-21	CORD, POWER (E4,EA)	
	3-861-412-11	MANUAL, INSTRUCTION (ENGLISH)(E92)	
	3-861-412-31	MANUAL, INSTRUCTION	(ENGLISH/SPANISH)(E4,EA)
	3-861-412-51	MANUAL, INSTRUCTION	(HUNGARIAN/PORTUGUESE)(E4)
	3-861-413-11	MANUAL, INSTRUCTION (SPANISH)(E92)	
	3-861-413-22	MANUAL, INSTRUCTION (ARABIC)(EA)	
	4-991-047-01	COVER, BATTERY	(FOR REMOTE COMMANDER)
	8-917-624-90	REMOTE COMMANDER RMT-CV25A SET	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-647-79	SCREW +BVTP 3 × 10 TYPE2 N-S	
#2	7-685-533-19	SCREW +BTP 2.6 × 6 TYPE2 N-S	
#3	7-682-548-04	SCREW +B 3 × 8	
#4	7-621-775-20	SCREW +B 2.6 × 5	
#5	7-621-255-15	SCREW +P 2 × 3	
#6	7-685-783-09	SCREW +PTT 2 × 6 (S)	
#7	7-621-773-95	SCREW +B 2.6 × 6	
#9	7-685-649-79	SCREW +BVTP 3 × 14 TYPE2 N-S	
#10	7-685-648-14	SCREW +BVTP 3 × 12 TYPE2 N-S	

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Replace only with part number specified.

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